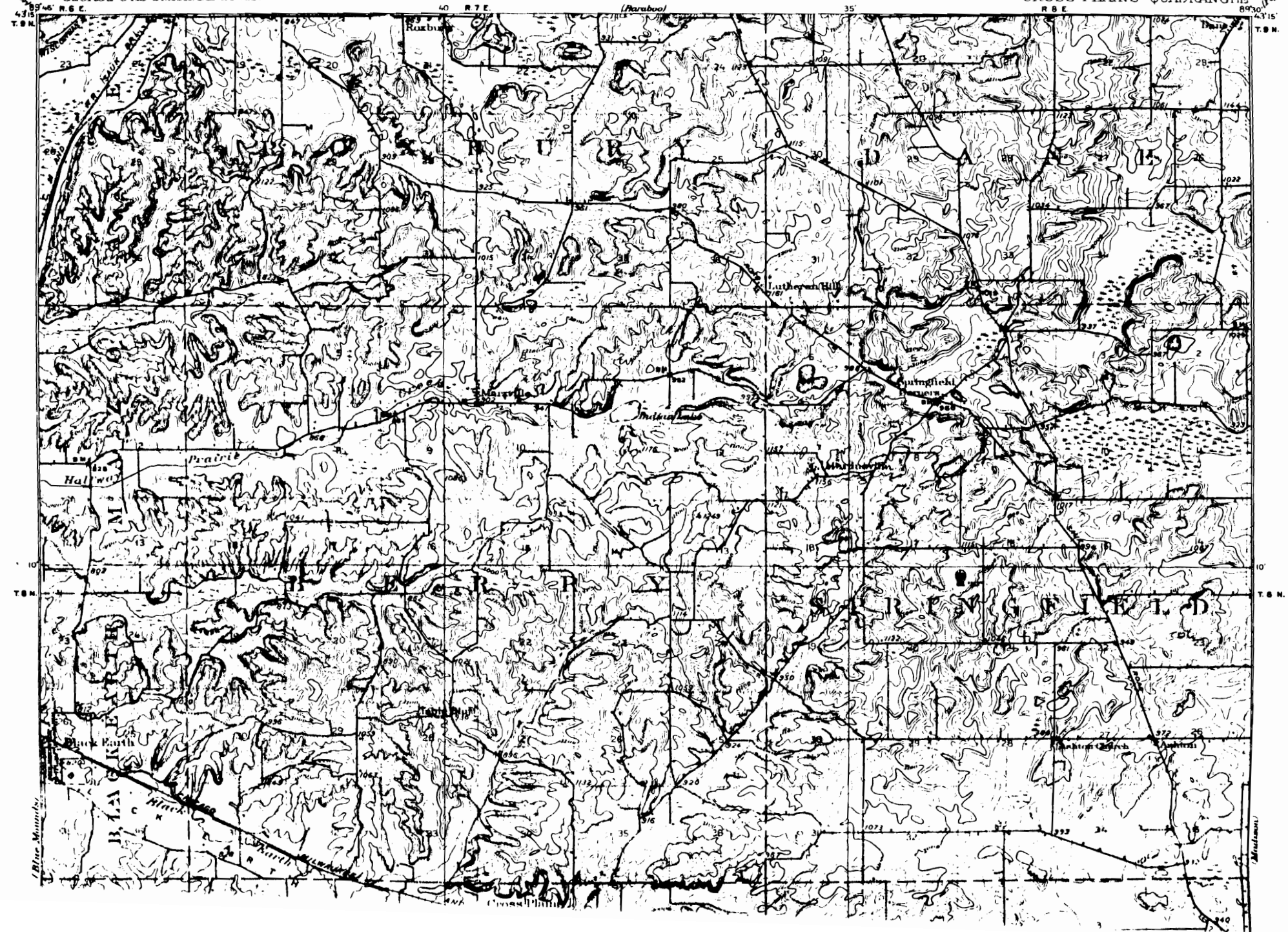
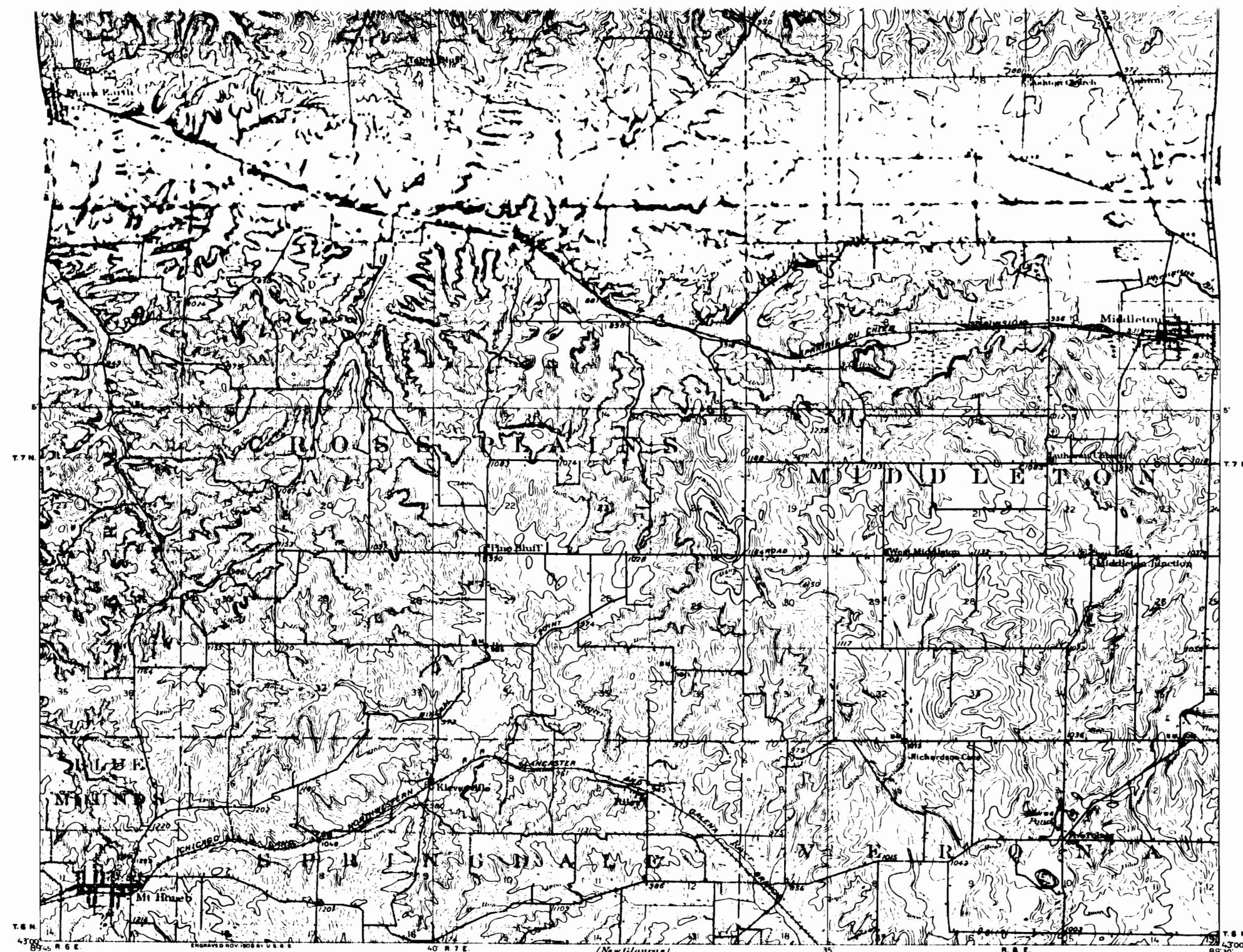


DEPARTMENT OF THE INTERIOR
ALBERT B. FALL, SECRETARY
U.S. GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

TOPOGRAPHY

WISCONSIN
(DANE COUNTY)
CROSS PLAINS QUADRANGLE





W. H. Herron, Geographer in charge.
Topography by Robert Muldrow and A. T. Fowler.
Control by Geo. I. Hawkins.
Surveyed in 1906-1907.

ENGRAVED NOV. 1908 BY U.S.G.S.

(New Orleans)
Scale 63,800

4 Miles

Edition of Jan. 1909, reprinted 1922.

THE TOPOGRAPHIC MAPS OF THE UNITED STATES

The United States Geological Survey is making a standard topographic atlas of the United States. This work has been in progress since 1882, and its results consist of published maps of more than 42 per cent of the country, exclusive of outlying possessions.

This topographic atlas is published in the form of maps on sheets measuring about 16½ by 20 inches. Under the general plan adopted the country is divided into quadrangle, bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for each map being that which is best adapted to general use in the development of the country, and consequently, though the standard maps are of nearly uniform size, they represent areas of different sizes. On the lower margin of each map are printed graphic scales showing distance in feet, meter, and mile. In addition, the scale of the map is shown by a fraction expressing a fixed ratio between linear measurement on the map and corresponding distances on the ground. For example, the scale $\frac{1}{62,500}$ means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 62,500 similar units on the earth's surface.

Although some areas are surveyed and some maps are compiled and published on special scales for special purposes, the standard topographic surveys for the United States proper and the resulting maps have for many years been divided into three types, differentiated as follows:

1. Survey of areas in which there are problems of great public importance, relating, for example, to mineral development, irrigation, or reclamation of swamp areas, are made with sufficient accuracy to be used in the publication of maps on a scale of $\frac{1}{62,500}$ (1 inch = one-half mile), with a contour interval of 1, 5, or 10 feet.

2. Survey of areas in which there are problems of lesser public importance, such as most of the basin of the Mississippi and its tributaries, are made with sufficient accuracy to be used in the publication of maps on a scale of $\frac{1}{125,000}$ (1 inch = 1 mile), with a contour interval of 10, 20, or 40 feet.

3. Survey of areas in which the problems are of less public importance, such as much of the mountain or desert region of Arizona or New Mexico, are made with sufficient accuracy to be used in the publication of maps on a scale of $\frac{1}{250,000}$ (1 inch = nearly 2 miles), with a contour interval of 20, 40, or 100 feet.

A topographic map of the United States

1. Standard topographic map

2. Special topographic map

3. Special topographic map

work of man, such as towns, cities, roads, railroads, and boundaries. The symbols used to represent these features are shown and explained below. Variations appear on some earlier maps, and additional features are represented on some special maps.

All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger rivers, the lake, and the sea by blue water lining or blue tint. Arid, intermittent streams—those whose beds are dry for a large part of the year—are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown, which on some maps are supplemented by shading showing the effect of light thrown from the northwest across the area represented, for the purpose of giving the appearance of relief and thus aiding in the interpretation of the contour lines. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in practice only the contour at certain regular intervals of altitude are shown. The line of the sea coast itself is a contour, the datum or zero of altitude being mean sea level. The 20-foot contour would be the shore line if the sea should rise 20 feet. Contour lines show the shape of the hills, mountains, and valleys, as well as their altitude. Successive contour lines that are far apart on the map indicate a gentle slope; lines that are close together indicate a steep slope; and lines that run together indicate a cliff.

The manner in which contour lines express altitude, form, and relief is shown in the figure below.



ing spurs separated by ravines. The spurs are truncated at their lower ends by a sea cliff. The hut at the left terminates abruptly at the valley in a steep scarp, from which it slopes gradually away and forms an inclined table-land that is traversed by a few shallow gullies. On the map each of these features is represented, directly beneath its position in the sketch, by contour lines.

The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval differs according to the topography of the area mapped; in a flat country it may be as small as 1 foot; in a mountainous region it may be as great as 250 feet. Certain contour lines, every fourth or fifth one, are made heavier than the others and are accompanied by figures showing altitude. The heights of many points—such as road corner, summits, surfaces of lakes, and bench marks—are also given on the map in figures, which show altitudes to the nearest foot only. More exact altitudes—those of bench marks—as well as the geodetic coordinates of triangulation stations, are published in bulletins issued by the Geological Survey.

Lettering and the works of man are shown in black. Boundaries, such as those of a State, county, city, land grant, township, or reservation, are shown by continuous or broken lines of different kinds and weights. Good motor or public road are shown by fine double lines, poor motor or private roads by dashed double lines, trails by dashed single lines.

Each quadrangle is designated by the name of a city, town, or prominent natural feature within it, and on the margin of the map are printed the names of adjoining quadrangles of which maps have been published. Over 3,200 quadrangles in the United States have been surveyed, and maps of them similar to the one on the other side of this leaf have been published.

The topographic map is the base on which the names of mineral resources of a quadrangle are represented, and the maps showing these features are bound together with a descriptive text to form a folio of the Geologic Atlas of the United States. More than 220 folios have been published.

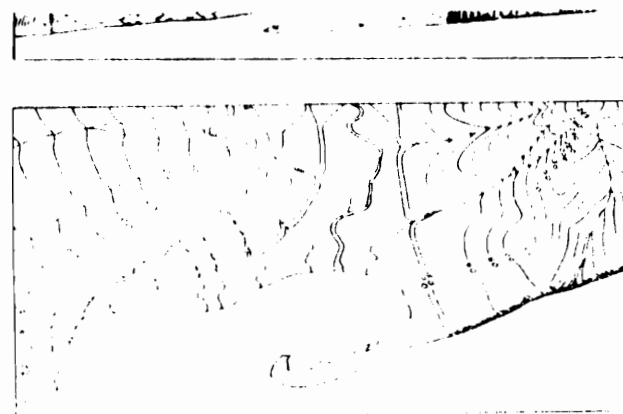
Index maps of each State and of Alaska and Hawaii, showing the areas covered by topographic maps and geologic folios, published by the United States Geological Survey may be obtained free. Copies of the standard topographic maps may be obtained for 10 cents each; some special maps are of different prices. A discount of 50 per cent is allowed on orders for maps containing more than 10 copies of the same map. The cost of the maps is paid by the Government, and the cost of the paper is paid by the user.

3. Surveys of areas in which the problem are of minor public importance, such as much of the mountain or desert region of Arizona or New Mexico, are made with sufficient accuracy to be used in the publication of maps on a scale of $\frac{1}{125,000}$ (1 inch = nearly 2 miles), with a contour interval of 25 to 100 feet.

A topographic survey of Alaska has been in progress since 1898, and nearly 43 per cent of its area has now been mapped. About 10 per cent of the Territory has been covered by reconnaissance maps on a scale of $\frac{1}{62,500}$, or about 10 miles to an inch. Most of the remaining area surveyed in Alaska has been mapped on a scale of $\frac{1}{125,000}$, but about 4,000 square miles have been mapped on a scale of $\frac{1}{62,500}$ or larger.

The Hawaiian Islands, with the exception of the small islands at the western end of the group, have been surveyed, and the resulting maps are published on a scale of

The feature shown on these maps may be any one of the following group: (1) water, including sea, lake, river, pond, swamp, and other bodies of water; (2) relief, including mountains, hills, valley, and other features of the land surface; (3) culture



The ditch represents a river valley that lies between two hills. The one on the left is the one with a bay that is partly in the ditch, a shallow one and low. On each side of the valley is a rise, one which is small, trees, have cut narrow gullies. The hill on the right has a rounded summit and gently slopes

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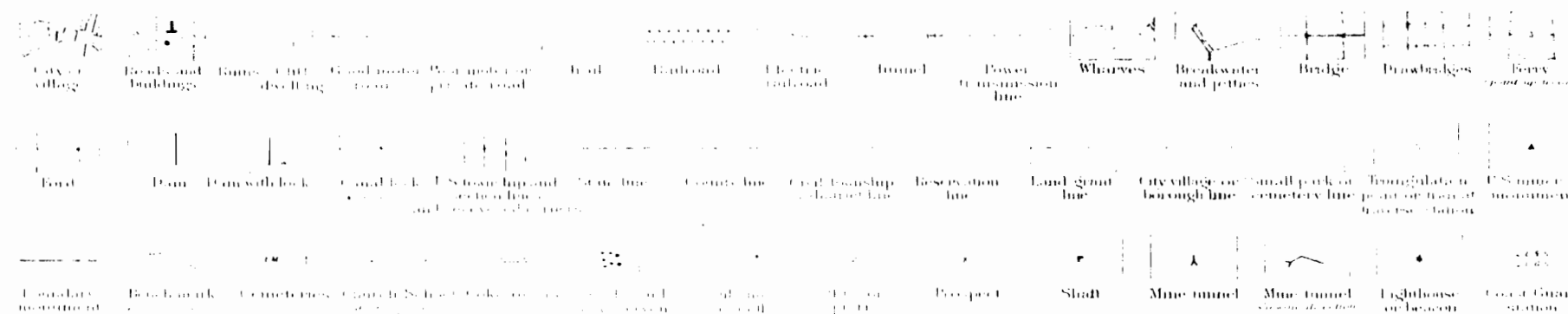
Applications for maps or folios should be accompanied by cash, draft, or money order (not postage stamp) and should be addressed to:

THE DIRECTOR,
United States Geological Survey,
Washington, D. C.

September, 1928.

STANDARD SYMBOLS

ONE MORE
printed on the back.

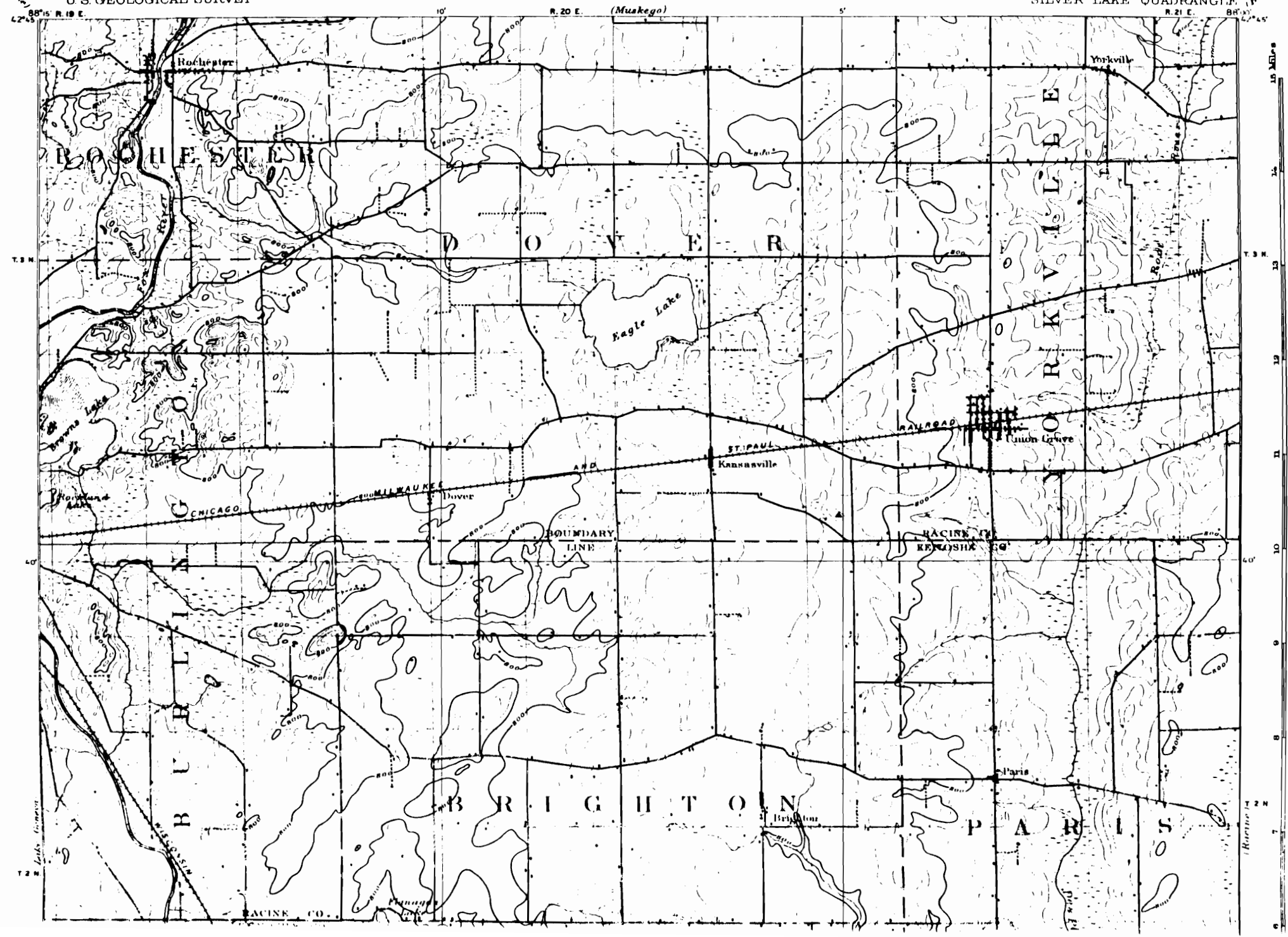


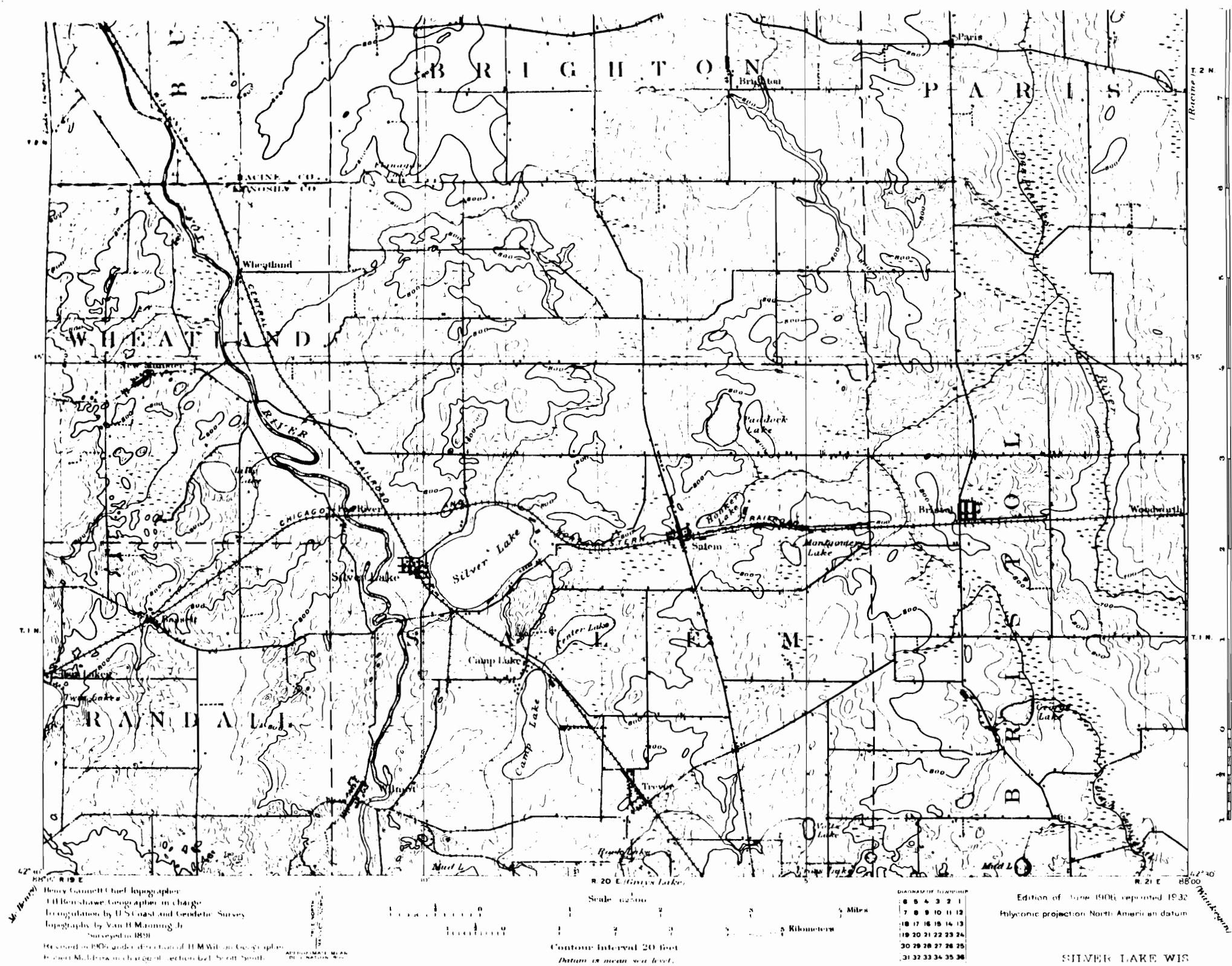
REFERENCES

WATER
(printed in blue)

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

WISCONSIN
SILVER LAKE QUADRANGLE





THE TOPOGRAPHIC MAPS OF THE UNITED STATES

The United States Geological Survey is making a standard topographic atlas of the United States. This work has been in progress since 1882, and its results consist of published maps of more than 40 per cent of the country, exclusive of outlying possessions.

This topographic atlas is published in the form of maps or atlas sheets measuring about 16½ by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for any quadrangle depending on its nature and probable future development, and consequently though the quadrangles are of nearly uniform size they represent areas of different sizes. On the lower margin of each sheet are printed graphic scales showing distances in feet, meters, and miles. In addition, the scale of the map is shown by a representative fraction expressing a fixed ratio between linear measurements on the map and corresponding distances on the ground. For example, the scale $\frac{1}{62,500}$ means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 62,500 similar units on the earth's surface.

The standard scales used on these maps are multiples of the fraction $\frac{1}{62,500}$. Quadrangles of thickly settled or highly important regions are mapped on a scale of 1 inch to 1 mile, or 1 centimeter to 160,000 centimeters, and cover areas ranging from 1 to 16 square miles. Quadrangles of less importance are mapped on a scale of 1 inch to 2 miles, or 1 centimeter to 320,000 centimeters, and cover areas ranging from 1 to 64 square miles. Quadrangles of even less importance are mapped on a scale of 1 inch to 4 miles, or 1 centimeter to 640,000 centimeters, and cover areas ranging from 1 to 256 square miles. Quadrangles of still less importance are mapped on a scale of 1 inch to 8 miles, or 1 centimeter to 1,280,000 centimeters, and cover areas ranging from 1 to 1,024 square miles. Quadrangles of the least importance are mapped on a scale of 1 inch to 16 miles, or 1 centimeter to 2,560,000 centimeters, and cover areas ranging from 1 to 4,096 square miles.

The topographic maps of the United States are published by the United States Geological Survey, Washington, D. C., and are sold by the Superintendent of Maps, United States Geological Survey, Washington, D. C.

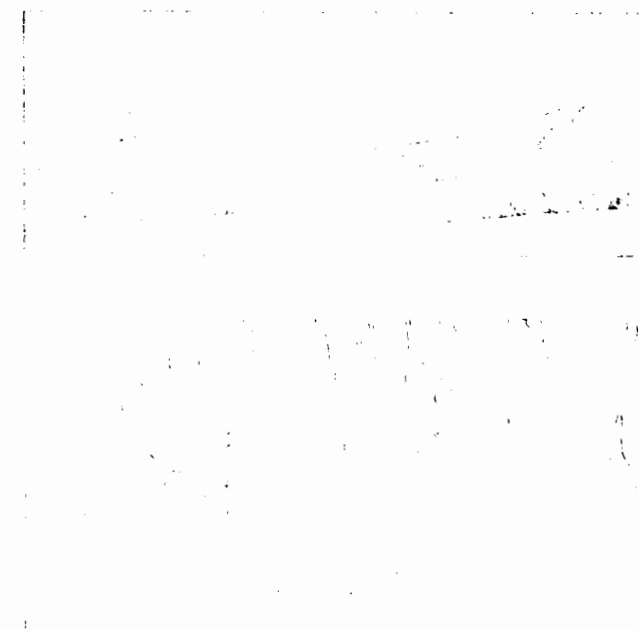
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All the water features are represented in blue, the smaller streams and canals by single blue lines, and the larger streams, the lakes, and the sea by blue water masses or blue tint. Intermittent streams—those whose beds are dry for a large part of the year—are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line would be drawn at any altitude, but in mapping only the contour at certain regular intervals of altitude are shown. The line of the lowest or of the highest contour, the datum or zero contour, is being near sea level. The 20-foot contour, for example, could be the horizon line if the sea could rise 20 feet. Contour lines show the shape of the hills, mountains, and valleys, as well as their altitudes. Successive contour lines that are together on the map indicate a steep slope, and lines that run far apart indicate a gentle slope.

The number in which contour lines express altitude, form, and position is shown in the margin below.



gradually away and forms an inclined table-land that is traversed by a few shallow gullies. On the map each of these features is represented, directly beneath its position in the sketch, by contour lines.

The contour interval, or the vertical distance, in feet, between one contour and the next, is stated at the bottom of each map. This interval differs according to the topography of the area mapped; in a flat country it may be as small as 1 foot; in a mountainous region it may be as great as 250 feet. Certain contour lines, every fourth or fifth one, are made heavier than the others and are accompanied by figures showing altitude. The heights of many points—such as road corners, summits, angles of hills, and bench marks—are also given on the map in figures, which show altitudes to the nearest foot only. More exact altitudes—the ones of bench marks—as well as the geodetic coordinates of triangulation stations, are published in bulletins that are issued free by the Geological Survey.

The lettering and works of man are shown in black. Boundaries, such as those of a State, county, city, and grant, township, or reservation, are shown by continuous or broken lines of different kinds and weights. Metalled roads are shown by double lines, one of which is accentuated. Other public roads are shown by fine double lines, private and poor roads by dashed double lines, trails by dashed single lines.

Each quadrangle is designated by the name of the principal city, town, or natural feature within it, and on the margins of the map are printed the names of adjoining quadrangles of which maps have been published. Over 4,800 quadrangles in the United States have been surveyed, and maps of them similar to the one on the other side of this sheet have been published.

The topographic maps are the basis on which the geology and mineral resources of the country have been represented, and the maps are also the basis on which the geology and mineral resources of the country have been represented.

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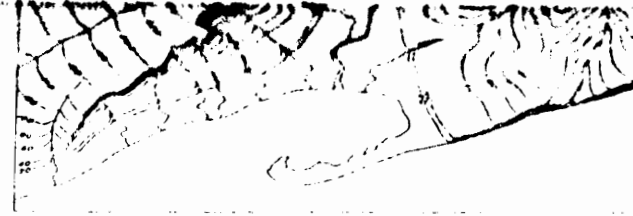
The topographic maps are the basis on which the geology and mineral resources of the country have been represented, and the maps are also the basis on which the geology and mineral resources of the country have been represented.

1898, and nearly 35 per cent of its area has now been mapped. About 10 per cent of the Territory has been covered by reconnaissance maps on a scale of $\frac{1}{250,000}$ or about 10 miles to an inch. Most of the remaining area surveyed in Alaska has been mapped on a scale of $\frac{1}{62,500}$ but about 3,500 square miles has been mapped on a scale of $\frac{1}{62,500}$.

A large part of the Hawaiian Islands has been surveyed, and the resulting maps are published on a scale of $\frac{1}{62,500}$.

The features shown on these maps may be arranged in three groups:—(1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land; (3) man-made features, including towns, cities, roads, railroads, and other features of human activity.

The maps are published in two series:—(1) the topographic maps, which show the physical features of the land; and (2) the geologic maps, which show the geological structure of the land.



The sketch represents a river valley that lies between two hills. In the foreground, the river flows through the valley. On each side of the valley, there are hills. The sketch is a simple line drawing, with the river represented by a wavy line and the hills by simple outlines.

the text to form a folio of the Geological Atlas of the United States.

Index maps of each state showing the topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the topographic maps may be obtained for 10 cents each, or in lots of 50 or more, either of the same or of different quadrangles, for 6 cents each. The geologic folios are sold for 25 cents or more each, the price depending on the size of the folio. A circular describing the folios will be sent on request.

Applications for maps or folios should be accompanied by cash or check, and a postage stamp and should be addressed to:

THE DIRECTOR,

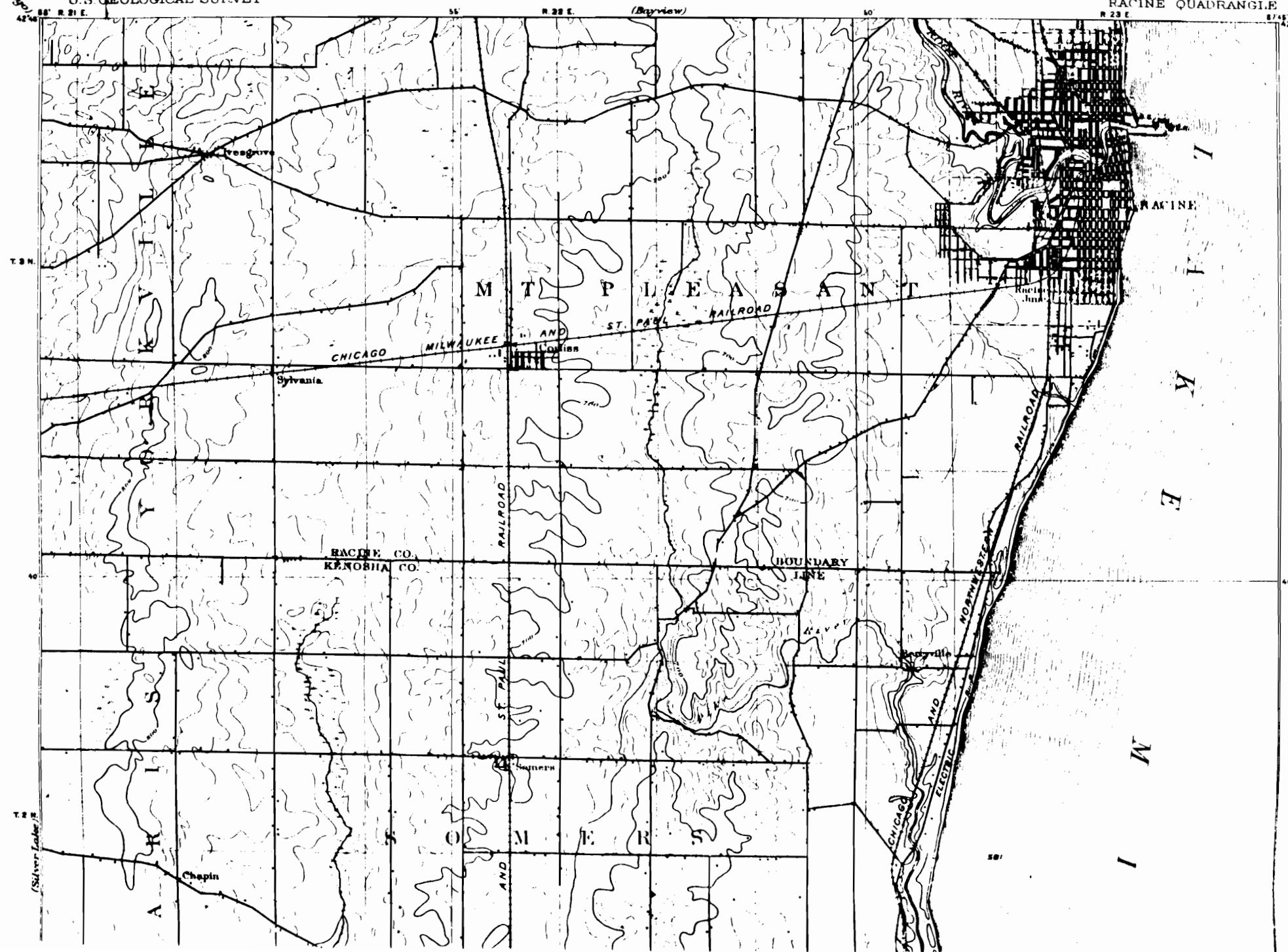
UNITED STATES GEOLOGICAL SURVEY,

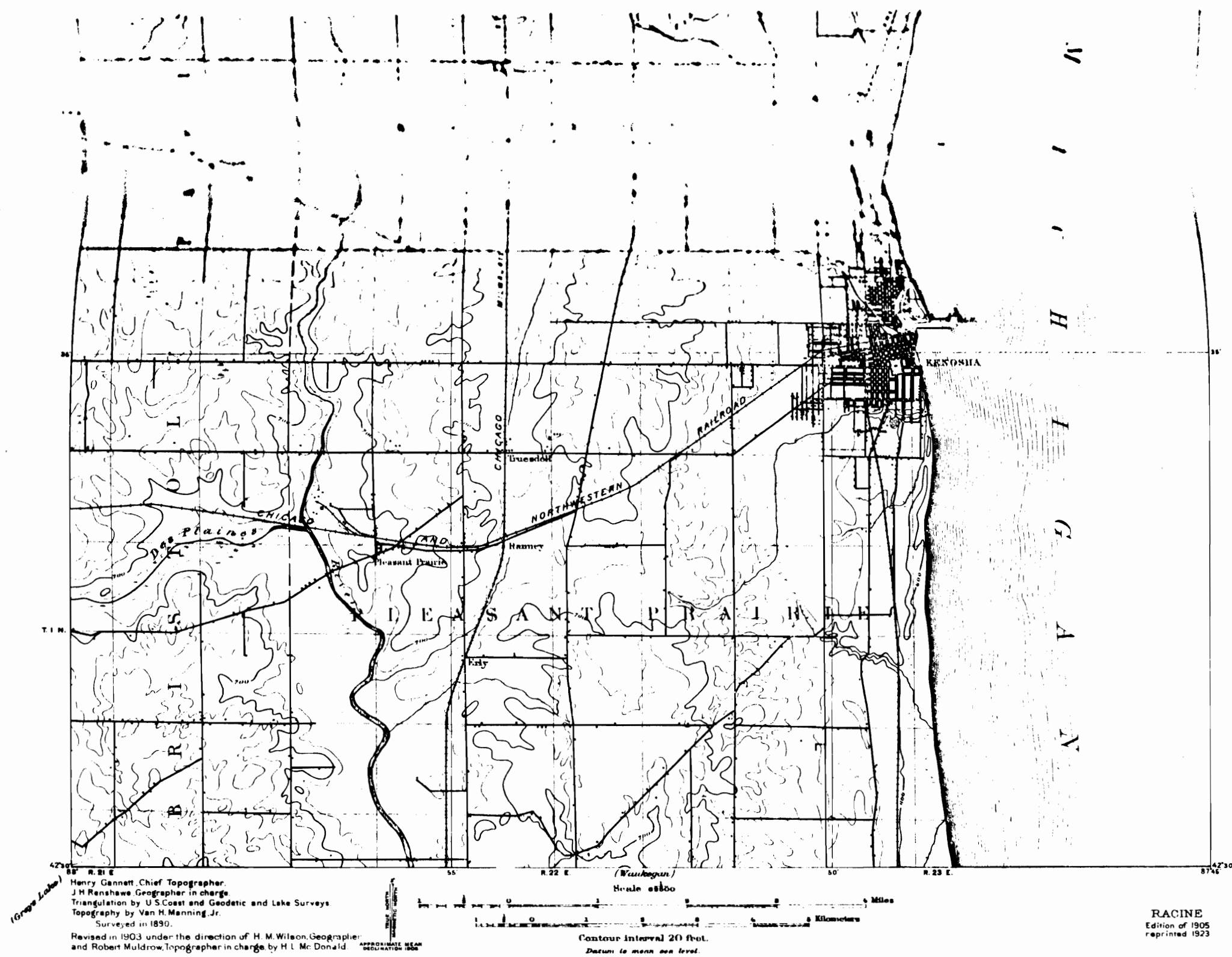
WASHINGTON, D. C.



DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

WISCONSIN
RACINE QUADRANGLE





Henry Gannett, Chief Topographer.
J. H. Renshaw, Geographer in charge.
Triangulation by U. S. Coast and Geodetic and Lake Surveys.
Topography by Van H. Manning, Jr.
Surveyed in 1890.

Revised in 1903 under the direction of H. M. Wilson, Geographer,
and Robert Muldrow, Topographer in charge, by H. L. McDonald.

APPROXIMATE MEAN
DECLINATION 1900

Contour interval 20 feet.
Datum to mean sea level.

RACINE
Edition of 1905
reprinted 1923

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This topographic atlas is published in the form of maps or atlas sheets measuring about 16½ by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for any quadrangle depending on its nature and its probable future development, and consequently though the standard atlas sheets are of nearly uniform size they represent areas of different sizes. On the lower margin of each sheet are printed graphic scales showing distances in feet, meters, and miles. In addition, the scale of the map is shown by a representative fraction expressing a fixed ratio between linear measurements on the map and corresponding distances on the ground. For example, the scale $\frac{1}{62,500}$ means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 62,500 similar units on the earth's surface.

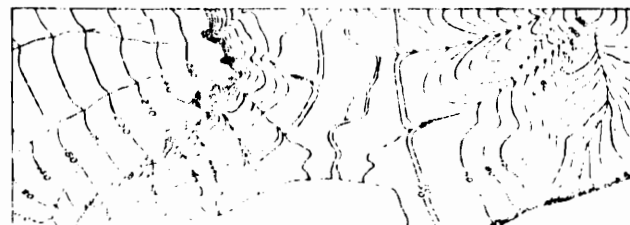
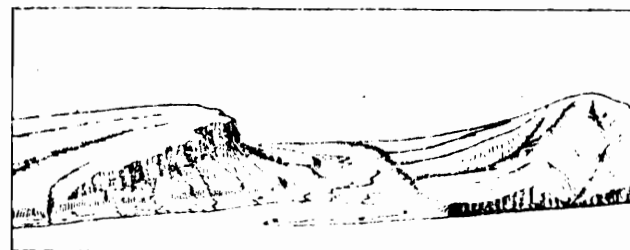
The standard scales used on these maps are multiples of the fraction $\frac{1}{62,500}$. Quadrangles in thickly settled or industrially important regions are mapped on a scale of $\frac{1}{25,000}$ or about 1 mile to an inch, and cover areas measuring 15' in latitude and 10' in longitude. Quadrangles in less thickly settled or industrially less important districts are mapped on a scale of $\frac{1}{50,000}$ or about 2 miles to an inch, and cover areas measuring 30' in latitude and longitude. Reconnaissance maps of forest or sparsely inhabited regions have been made on a scale of $\frac{1}{100,000}$ or about 4 miles to an inch, covering areas measuring 1° in latitude and longitude. Maps for special purposes are made on scales larger than $\frac{1}{62,500}$.

A topographic survey of Alaska has been in progress since 1898, and nearly 35 per cent of its area has now been mapped. About 10 per cent of the Territory has been covered by reconnaissance maps on a scale of $\frac{1}{100,000}$ or about 40 miles to an inch. Most of the remaining area surveyed in Alaska has been mapped on a scale of $\frac{1}{250,000}$ but about 3,500 square miles

All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger streams, the lakes, and the sea by blue water lining or blue tint. Intermittent streams—those whose beds are dry for a large part of the year—are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in mapping only the contours at certain regular intervals of altitude are shown. The line of the sea-level itself is a contour, the datum or zero of altitude being mean sea level. The 20-foot contour, for example, would be the shore line if the sea should rise 20 feet. Contour lines show the shapes of the hills, mountains, and valleys, as well as their altitudes. Successive contour lines that are far apart on the map indicate a gentle slope; lines that are close together indicate a steep slope; and lines that run together indicate a cliff.

The manner in which contour lines express altitude, form, and grade is shown in the figure below.



gradually away and forms an inclined table-land that is traversed by a few shallow gullies. On the map each of these features is represented, directly beneath its position in the sketch, by contour lines.

The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval differs according to the topography of the area mapped; in a flat country it may be as small as 1 foot; in a mountainous region it may be as great as 450 feet. Certain contour lines, every fourth or fifth one, are made heavier than the others and are accompanied by figures showing altitude. The heights of many points—such as road corners, summits, surfaces of lakes, and bench marks—are also given on the map in figures, which show altitudes to the nearest foot only. More exact altitudes—those of bench marks—as well as the geodetic coordinates of triangulation stations, are published in bulletins that are issued free by the Geological Survey.

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Index maps of each State showing the topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the topographic maps

and some maps of a scale of $\frac{1}{62,500}$ or about 10 miles to an inch. Most of the remaining area surveyed in Alaska has been mapped on a scale of $\frac{1}{125,000}$ but about 3,500 square miles has been mapped on a scale of $\frac{1}{250,000}$.

A large part of the Hawaiian Islands has been surveyed, and the resulting maps are published on a scale of $\frac{1}{62,500}$.

The features shown on these maps may be arranged in three groups—(1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land surface; (3) culture (works of man), such as towns, cities, roads, railroads, and boundaries. The conventional signs used to represent these features are shown and explained below. Variations appear on some earlier maps, and additional features are represented on some special maps.



The sketch represents a river valley that lies between two hills. In the foreground is the sea, with a bay that is partly inclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently sloping spurs separated by ravines. The spurs are truncated at their lower ends by a scarp. The bay at the left terminates abruptly at the valley in a steep ramp, from which it slopes.

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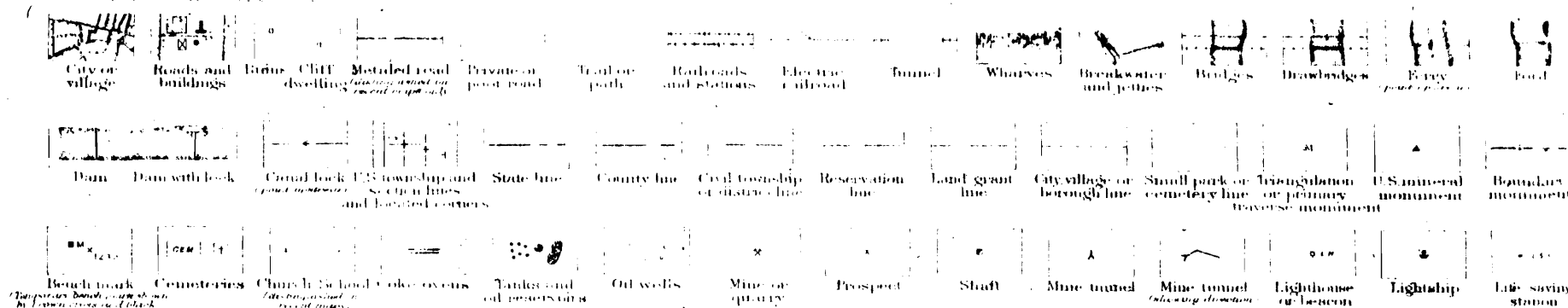
United States Geological Survey,

Washington, D. C.

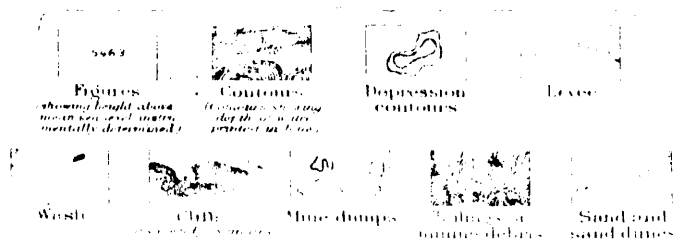
November, 1919.

CONVENTIONAL SIGNS

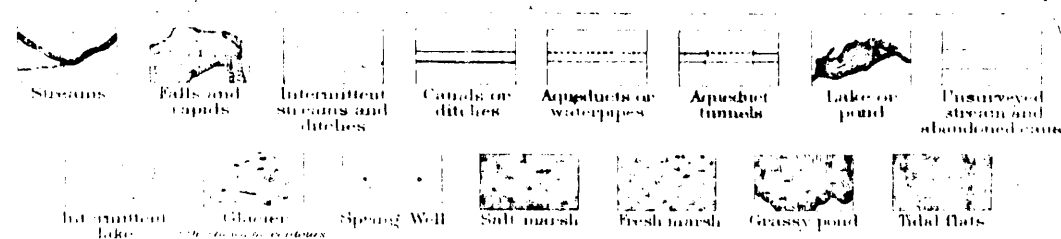
CULTURE (printed in black)



RELIEF (printed in brown)



WATER (printed in blue)

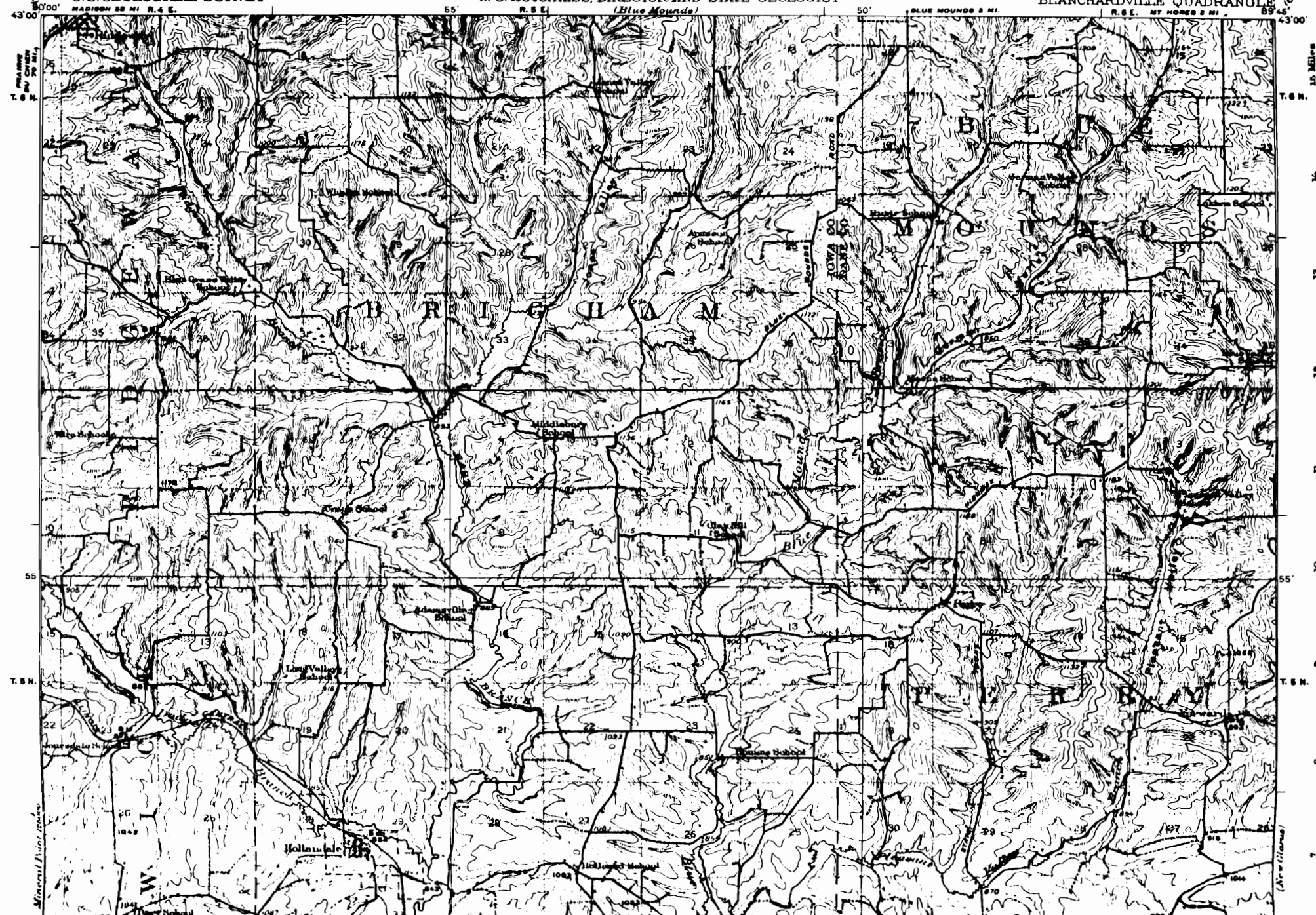


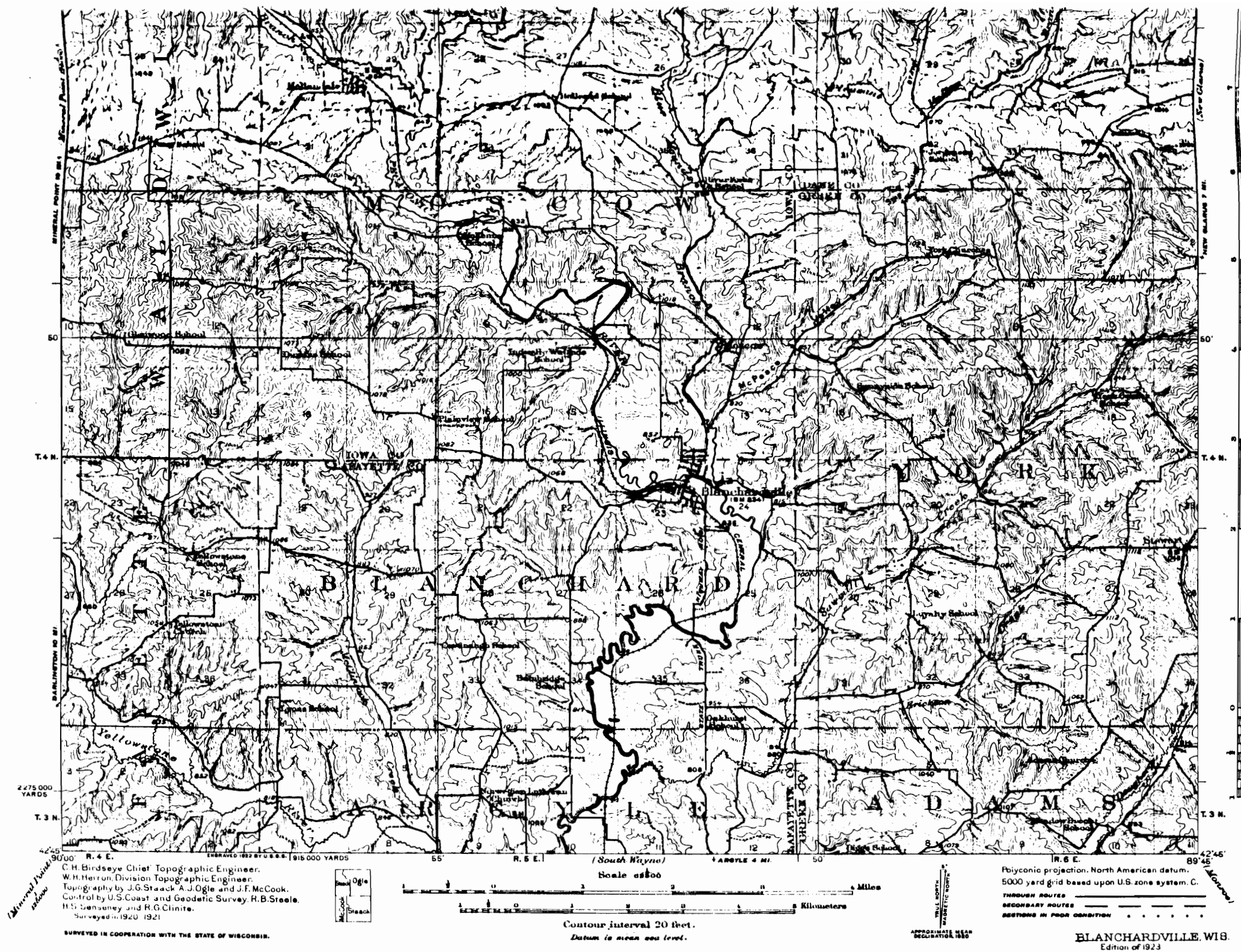
WOODS (when shown, printed in green)

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

STATE OF WISCONSIN
GEOLOGICAL AND NATURAL HISTORY SURVEY
W. O. HOTCHKISS, DIRECTOR AND STATE GEOLOGIST

WISCONSIN
BLANCHARDVILLE QUADRANGLE





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This topographic atlas is published in the form of maps or atlas sheets measuring about 16½ by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for any quadrangle depending on its nature and its probable future development, and consequently though the standard atlas sheets are of nearly uniform size they represent areas of different sizes. On the lower margin of each sheet are printed graphic scales showing distances in feet, meters, and miles. In addition, the scale of the map is shown by a representative fraction expressing a fixed ratio between linear measurements on the map and corresponding distances on the ground. For example, the scale $\frac{1}{62,500}$ means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 62,500 similar units on the earth's surface.

The standard scales used on these maps are multiples of the fraction $\frac{1}{62,500}$. Quadrangles in thickly settled or industrially important regions are mapped on a scale of $\frac{1}{62,500}$ or about 1 mile to an inch, and cover areas measuring 15' in latitude and longitude. Quadrangles in less thickly settled or industrially less important districts are mapped on a scale of $\frac{1}{125,000}$ or about 2 miles to an inch, and cover areas measuring 30' in latitude and longitude. Reconnaissance maps of desert or sparsely inhabited regions have been made on a scale of $\frac{1}{250,000}$ or about 4 miles to an inch, covering areas measuring 1° in latitude and longitude. Maps for special purposes are made on scales larger than $\frac{1}{62,500}$.

A topographic survey of Alaska has been in progress since 1898, and nearly 35 per cent of its area has now been mapped. About 10 per cent of the Territory has been covered by reconnaissance maps on a scale of $\frac{1}{125,000}$ or about 10 miles to an inch. Most of the remaining area surveyed in Alaska has been mapped on a scale of $\frac{1}{250,000}$ but about 3,500 square miles has been mapped on a scale of $\frac{1}{62,500}$.

A large part of the Hawaiian Islands has been surveyed, and the resulting maps are published on a scale of $\frac{1}{62,500}$.

The features shown on these maps may be arranged in three groups: (1) water, including oceans, lakes, rivers, and streams;

(2) All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger streams, the lakes, and the sea by blue water lining or blue tint. Intermittent streams—those whose beds are dry for a large part of the year—are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in mapping only the contours at certain regular intervals of altitude are shown. The line of the seacoast itself is a contour, the datum or zero of altitude being mean sea level. The 20-foot contour, for example, would be the shore line if the sea should rise 20 feet. Contour lines show the shapes of the hills, mountains, and valleys, as well as their altitudes. Successive contour lines that are far apart on the map indicate a gentle slope; lines that are close together indicate a steep slope; and lines that run together indicate a cliff.

The manner in which contour lines express altitude, form, and grade is shown in the figure below.

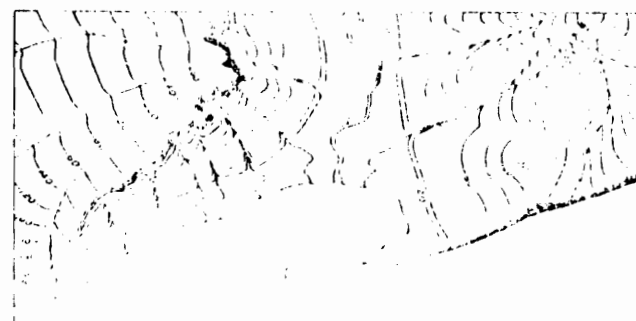


FIG. 1. Contour lines showing altitude, form, and grade. (a) Gentle slope; (b) steep slope; (c) cliff.

gradually away and forms an inclined table-land that is traversed by a few shallow gullies. On the map each of these features is represented, directly beneath its position in the sketch, by contour lines.

The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval differs according to the topography of the area mapped; in a flat country it may be as small as 1 foot; in a mountainous region it may be as great as 250 feet. Certain contour lines, every fourth or fifth one, are made heavier than the others and are accompanied by figures showing altitude. The heights of many points—such as road corners, summits, surfaces of lakes, and bench marks—are also given on the map in figures, which show altitudes to the nearest foot only. More exact altitudes—those of bench marks—as well as the geodetic coordinates of triangulation stations, are published in bulletins that are issued free by the Geological Survey.

The lettering and works of man are shown in black. Boundaries, such as those of a State, county, city, land grant, township, or reservation, are shown by continuous or broken lines of different kinds and weights. Metalled roads are shown by double lines, one of which is accentuated. Other public roads are shown by fine double lines, private and poor roads by dashed double lines, trails by dashed single lines.

Each quadrangle is designated by the name of the principal city, town, or natural feature within it, and on the margins of the map are printed the names of adjoining quadrangles of which maps have been published. Over 2,800 quadrangles in the United States have been surveyed, and maps of them similar to the one on the other side of this sheet have been published.

The topographic map is the base on which the geology and mineral resources of a quadrangle are represented, and the map showing these features are bound together with a descriptive text to form a folio of the Geologic Atlas of the United States.

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About 10 per cent of the Territory has been covered by topographic maps on a scale of $\frac{1}{62,500}$ or about 10 miles to an inch. Most of the remaining area surveyed in Alaska has been mapped on a scale of $\frac{1}{125,000}$ but about 8,500 square miles has been mapped on a scale of $\frac{1}{250,000}$.

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The sketch represents a river valley that lies between two hills. In the foreground is the sea, with a bay that is partly inclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently sloping spurs separated by ravines. The spurs are truncated at their lower ends by a sea cliff. The hill at the left terminates abruptly at the valley in a steep scarp, from which it slopes

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THE DIRECTOR,

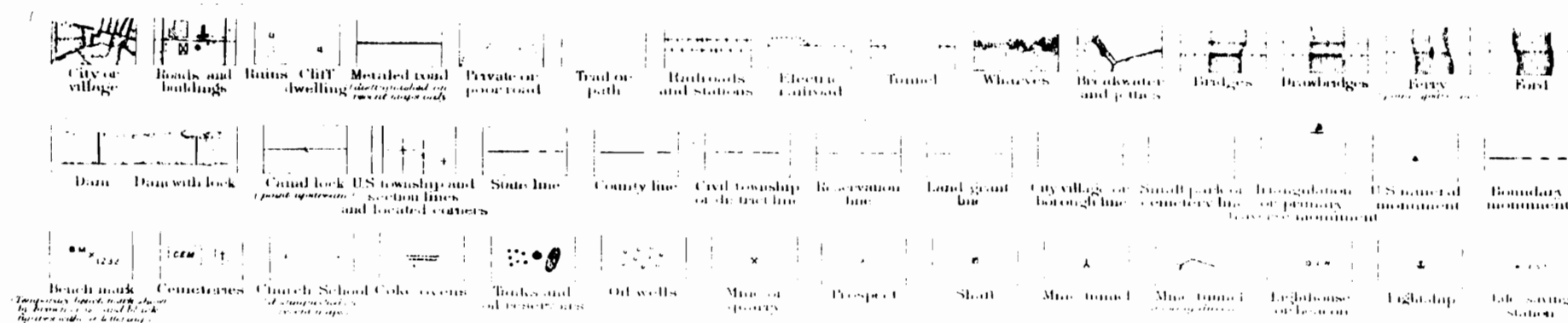
United States Geological Survey,

Washington, D. C.

November, 1919.

CONVENTIONAL SIGNS

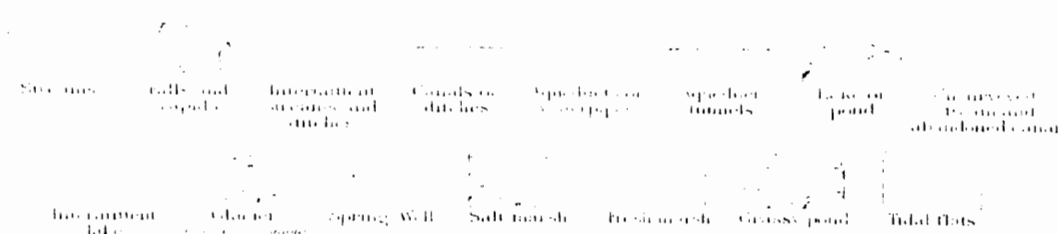
CULTURE (printed in black)



RELIEF (printed in brown)



WATER (printed in blue)

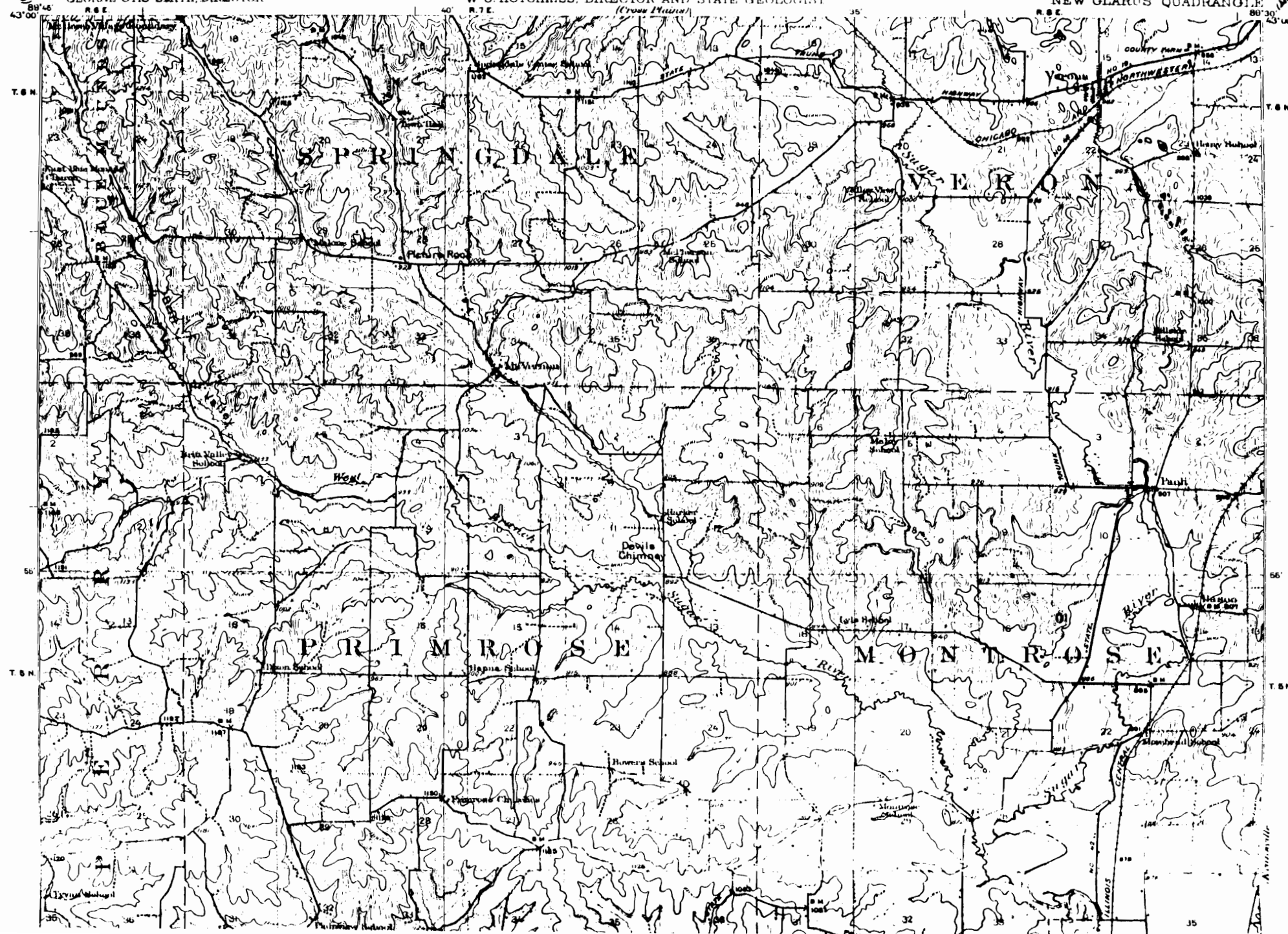


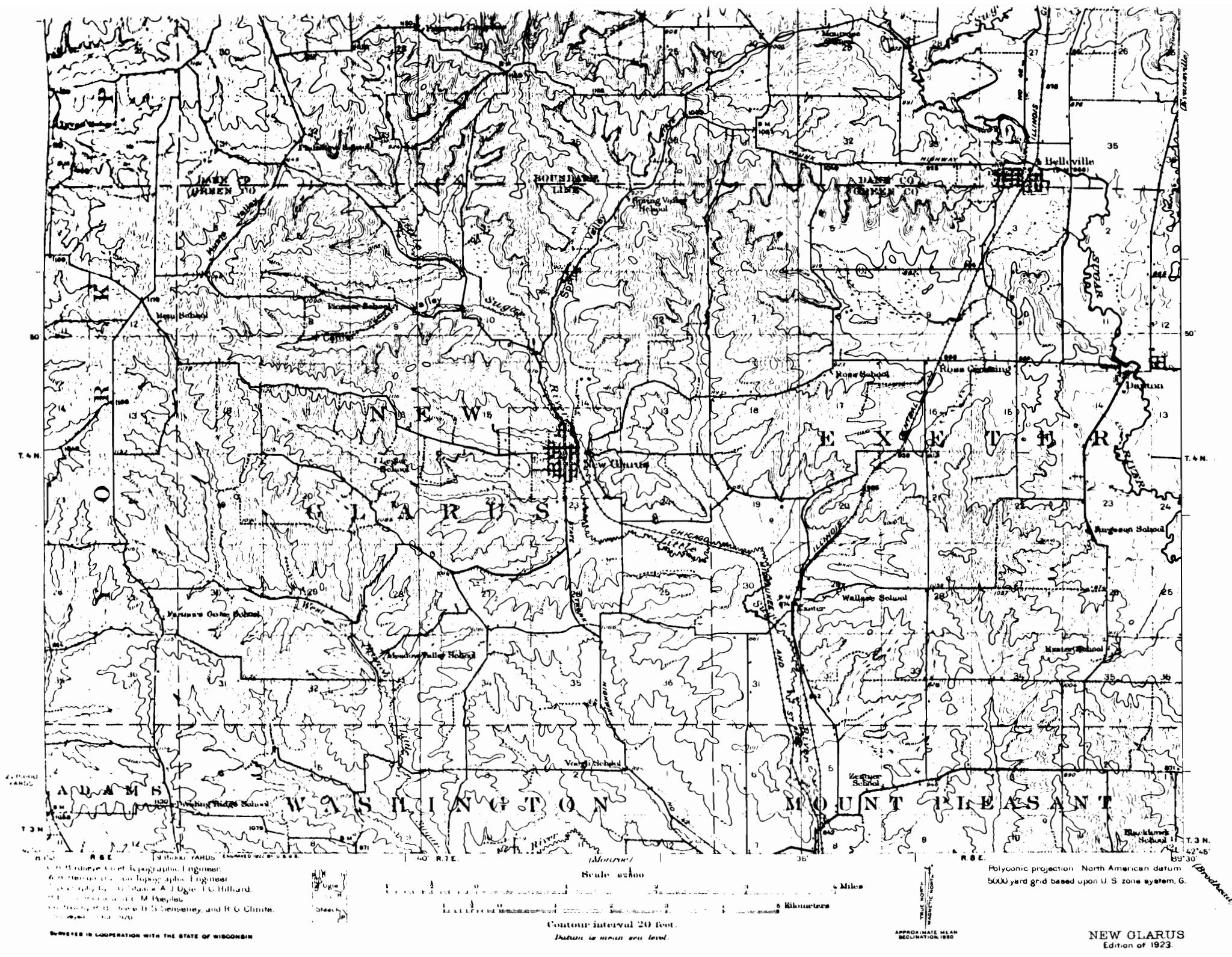
WOODS (when at scale, printed in green)

DEPARTMENT OF THE INTERIOR
ALBERT H. FALL, SECRETARY
U.S. GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

TOPOGRAPHY
STATE OF WISCONSIN
GEOLOGICAL AND NATURAL HISTORY SURVEY
W. O. HOTCHKISS, DIRECTOR AND STATE GEOLOGIST
(Cross Plains)

WISCONSIN
NEW GLARUS QUADRANGLE





U.S. Geological Survey
Topographic Engineer
A. J. Ogilvie, T.C. Billard
M. H. Hapler
H. G. Sempley, and R. G. Clute
1923

Surveyed in cooperation with the State of Wisconsin

Contour interval 20 feet.
Datum is mean sea level.

Polyconic projection North American datum
5000 yard grid based upon U.S. zone system, G.

NEW GLARUS
Edition of 1923

THE TOPOGRAPHIC MAPS OF THE UNITED STATES

The United States Geological Survey is making a standard topographic atlas of the United States. This work has been in progress since 1882, and its results consist of published maps of more than 40 per cent of the country, exclusive of outlying possessions.

This topographic atlas is published in the form of maps on sheets measuring about 16½ by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for each map being that which is best adapted to general use in the development of the country, and consequently, though the standard maps are of nearly uniform size, they represent areas of different sizes. On the lower margin of each map are printed graphic scales showing distances in feet, meters, and miles. In addition, the scale of the map is shown by a fraction expressing a fixed ratio between linear measurements on the map and corresponding distances on the ground. For example, the scale $\frac{1}{62,500}$ means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 62,500 similar units on the earth's surface.

Although some areas are surveyed and some maps are compiled and published on special scales for special purposes, the standard topographic surveys for the United States proper and the resulting maps have for many years been divided into three types, differentiated as follows:

1. Surveys of areas in which there are problems of great public importance—relating, for example, to mineral development, irrigation, or reclamation of swamp areas—are made with sufficient accuracy to be used in the publication of maps on a scale of $\frac{1}{62,500}$ (1 inch = one-half mile), with a contour interval of 1, 5, or 10 feet.

2. Surveys of areas in which there are problems of average public importance, such as most of the basin of the Mississippi and its tributaries, are made with sufficient accuracy to be used in the publication of maps on a scale of $\frac{1}{125,000}$ (1 inch = nearly 1 mile), with a contour interval of 10 to 25 feet.

3. Surveys of areas in which the problems are of minor public importance, such as much of the mountain or desert region of Arizona or New Mexico, are made with sufficient accuracy to be used in the publication of maps on a scale of $\frac{1}{250,000}$ (1 inch = nearly 2 miles), with a contour interval of 25 to 100 feet.

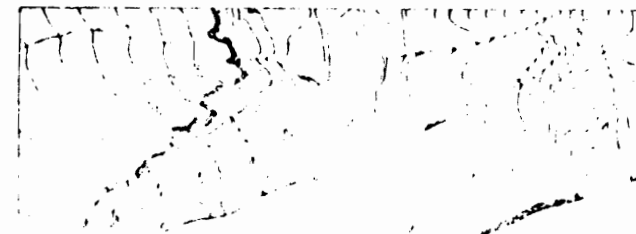
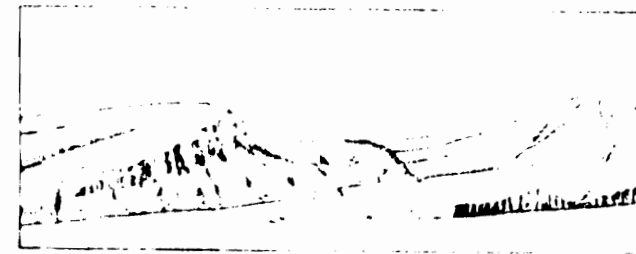
A topographic survey of Alaska has been in progress since 1898, and nearly 50 per cent of its area has now been mapped. About 10 per cent of the Territory has been covered by reconnaissance maps on a scale of $\frac{1}{250,000}$ or about 10 miles to an

boundary. The conventional signs used to represent these features are shown and explained below. Variations appear on some earlier maps, and additional features are represented on some special maps.

All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger streams, the lakes, and the sea by blue water lining or blue tint. Intermittent streams—those whose beds are dry for a large part of the year—are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown, which on some maps are supplemented by shading showing the effect of light thrown from the northwest across the area represented, for the purpose of giving the appearance of relief and thus aiding in the interpretation of the contour lines. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in practice only the contours at certain regular intervals of altitude are shown. The line of the seacoast itself is a contour, the datum or zero of altitude being mean sea level. The 20-foot contour would be the shore line if the sea should rise 20 feet. Contour lines show the shape of the hills, mountains, and valleys, as well as their altitude. Successive contour lines that are far apart on the map indicate a gentle slope; lines that are close together indicate a steep slope; and lines that run together indicate a cliff.

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Each quadrangle is designated by the name of a city, town, or prominent natural feature within it, and on the margins of the map are printed the names of adjoining quadrangles of which maps have been published. Over 3,000 quadrangles in the United States have been surveyed, and maps of them similar to the one on the other side of this sheet have been published.

The topographic map is the base on which the geology and mineral resources of a quadrangle are represented, and the maps showing these features are bound together with a descriptive text to form a folio of the Geologic Atlas of the United States. More than 200 folios have been published.

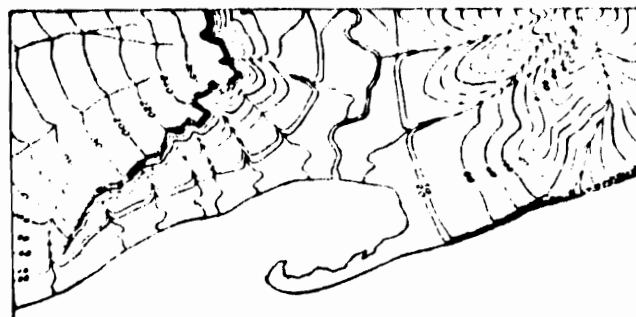
Index maps of each State and of Alaska and Hawaii showing the areas covered by topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the standard topographic maps may be obtained for 10 cents each; some special maps are sold at different prices. A discount of 10 per cent is allowed on an order for maps amounting to \$5 or more at the retail price. The geologic folios are sold for 25 cents or more each, the price depending

...of the mountain or desert ... of Arizona or New Mexico, are made with sufficient accuracy to be used in the publication of maps on a scale of 1 inch = nearly 2 miles, with a contour interval of 25 to 100 feet.

A topographic survey of Alaska has been in progress since 1898, and nearly 37 per cent of its area has now been mapped. About 10 per cent of the Territory has been covered by reconnaissance maps on a scale of 1 inch = 10 miles to an inch. Most of the remaining area surveyed in Alaska has been mapped on a scale of 1 inch = 2 miles, but about 4,000 square miles has been mapped on a scale of 1 inch = 10 miles.

About half of the Hawaiian Islands has been surveyed, and the resulting maps are published on a scale of 1 inch = 10 miles.

The features shown on these maps may be arranged in three groups—(1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land surface; (3) culture (works of man), such as towns, cities, roads, railroads, and



The sketch represents a river valley that lies between two hills. In the foreground is the sea, with a bay that is partly inclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently sloping spurs separated by ravines. The spurs are truncated at the top.

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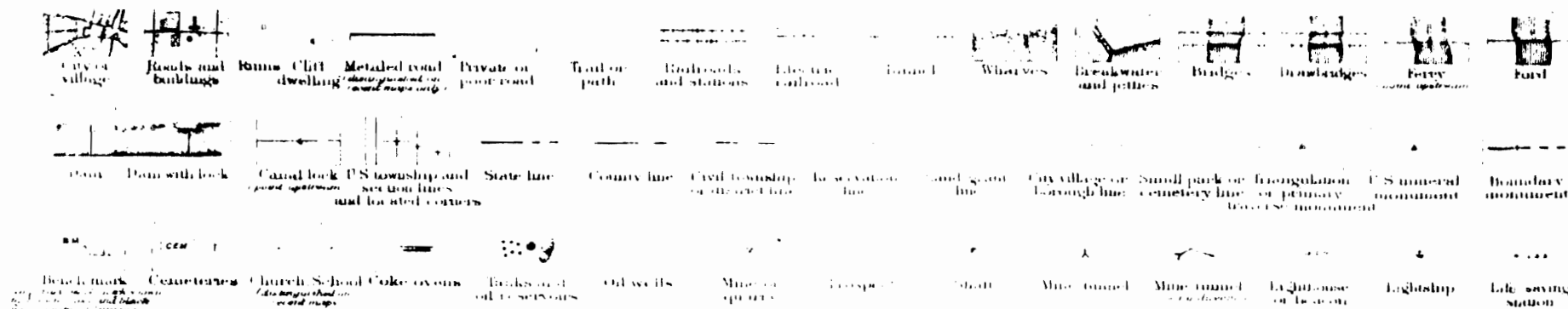
Applications for maps or folios should be accompanied by cash, draft, or money order (not postage stamps) and should be addressed to

THE DIRECTOR,
United States Geological Survey,
Washington, D. C.

January, 1924.

CONVENTIONAL SIGNS

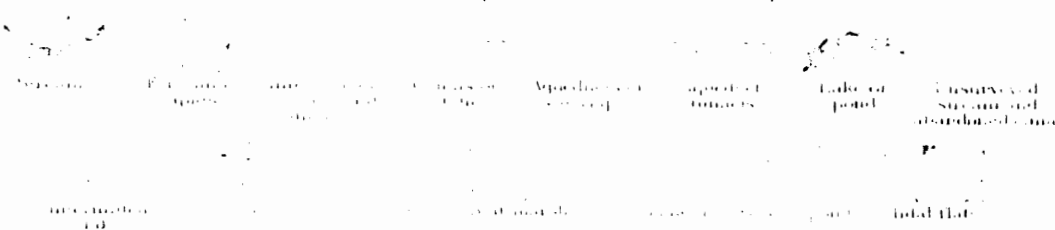
CULTURE (printed in black)



RELIEF (printed in brown)

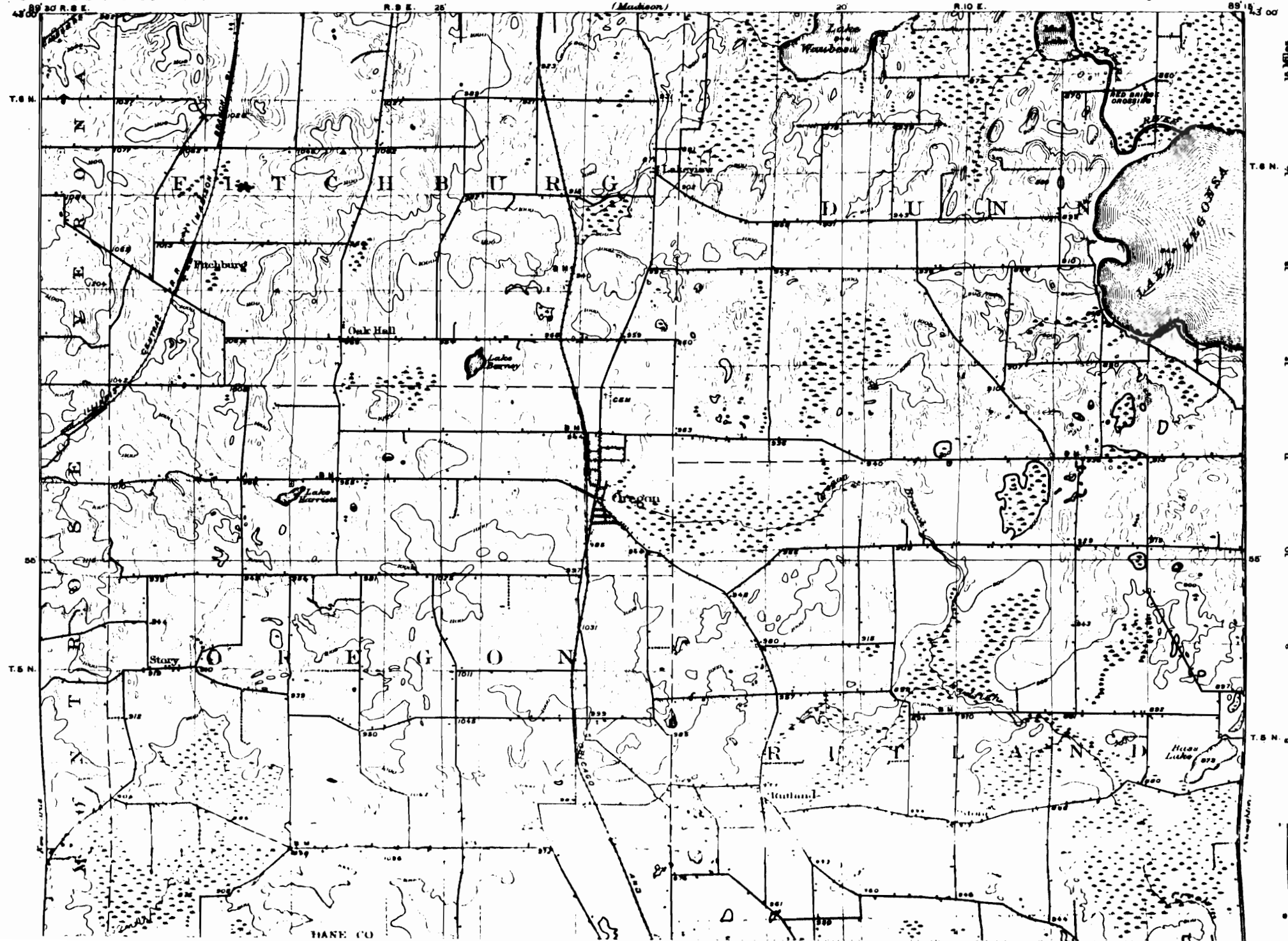


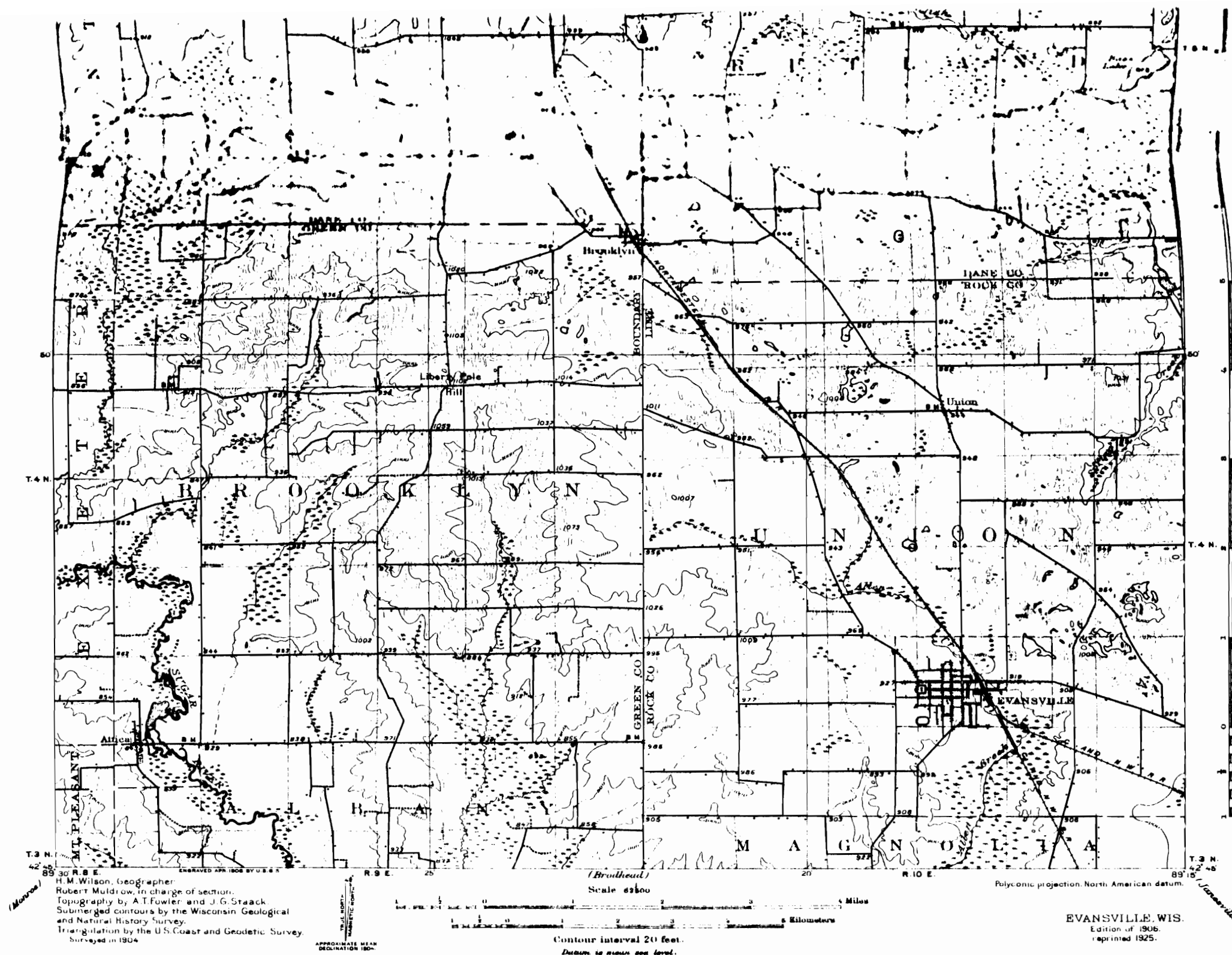
WATER (printed in blue)



DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

WISCONSIN
EVANSVILLE QUADRANGLE





Q

The green map is being published in atlas sheets of convenient size, which are bounded by parallels and meridians. The four-cornered division of land corresponding to an atlas sheet is called a *quadrangle*. The sheets are of approximately the same size; the paper dimensions are 20 by 463 inches, the map occupies about 173 inches of height and 113 to 16 inches of width, the latter varying with latitude. Three scales, however, are employed. The largest scale is 1:62,500, or very nearly one mile to one inch; i. e., one linear mile on the ground is represented by one linear inch on the map. This scale is used for the third, second, or fourth-rankly important parts of the country. For the center part of the country, and for a circle of 1:125,000, or about two miles to one inch, is employed. A third, and still smaller, scale of 1:250,000, or about four miles to one inch, has been used in the desert region of the west. A few special maps on large scales, such as the limited areas of mining, have also been published, but these are not included in the general series, and are not available in the general distribution of the maps.

times, are shown, not by full lines, but by lines of dots and dashes. Ponds which are dry during a part of the year are shown by oblique parallel lines. Salt-water marshes are shown by horizontal ruling interspersed with tufts of blue, and fresh-water marshes and swamps by blue tufts with broken horizontal lines.

Relief is shown by contour lines, or *isobars*. Each contour passes through points which have the same altitude. One who follows a contour on the ground will go neither up nor down, but on a level. By the use of contour lines only are the shapes of the peaks, hills, and mountains shown, but also the elevation. The line of the summit itself is a contour line, the elevation or *crest* of elevation being given on the level. The contour lines are, say, 20 feet above sea level in the case mentioned. The summit of the sea would be the line to which the land is put, 20 feet. Such a line runs back into the valleys and forward around the point of hills and peaks. Consequently, the contour line is a mark of the present coast line, which can be easily traced around. This is a succession of contours, the line being one of the steep ridges or a mountain of hills. Then, a steep slope, and if the contour lines are close together, the hills are very steep. The interval between the contours is called the *contour interval*, and is usually 20 feet.

Other descriptions, as well as the descriptions and resulting coordinates of triangulation stations, are published in the annual report and bulletins of the Survey. The publications pertaining to specific surveys may be found on application.

The works of map are shown in *each* in which color all but since also is printed. Boundaries, natural (lake, county, city, boundary, reservation, etc.) are shown by broken lines of different kinds and colors. These are shown by small black lines, with hatched and dotted portions of cities and boundaries, into blocks. Roads are shown by fine double lines (fine for the better road), dotted for the inferior one, or, in the by single dotted lines, and railroad by full black lines with cross lines. Other cultural features are represented by conventions which are easily understood.

The sheets composing the topographic atlas are designated by the name of a principal town or of some prominent natural feature within the quadrangle and the names of adjoining published sheets are printed on the margins. They are sold at five cents each when fewer than 100 copies are purchased, but when ordered in lots of 100 or more copies, a number of the same set of different sheets or parts may be ordered.

[illegible]

For the purpose of this paper, we consider the following map \mathcal{A} from the set of all n -tuples of positive integers to the set of all n -tuples of positive integers:

$$\mathcal{A}(a_1, a_2, \dots, a_n) = (a_1, a_2, \dots, a_n).$$

The price is now 10 cents per copy. A copy is being sent to you.

The features shown on this map may, for convenience, be classed in three groups: (1) *water*, including seas, lakes, ponds, rivers and other streams, canals, swamps, etc.; (2) *relief*, including mountains, hills, valleys, cliffs, etc.; (3) *culture*, i. e., works of man, such as towns, cities, roads, railroads, boundaries, etc. The conventional signs used for these features are grouped below. Various features appear on some maps of other dates.

All water features are shown in blue, the relief features in brown, and the culture features in black. The conventional signs for the features are given in the following groups:

The interval between contours and the next contour is stated at the bottom of each map. This interval varies according to the character of the area mapped: in a flat country it may be as small as 5 feet; in a mountainous region it may be 200 feet. Certain contours, usually every fifth one, are accompanied by figures stating elevation above sea level. The absence of many definite points, such as peaks, and the presence of many rounded hills, are shown by the following signs:

The signs are sold as *country sets* each, excepting that such as are unusually comprehensive are priced accordingly.

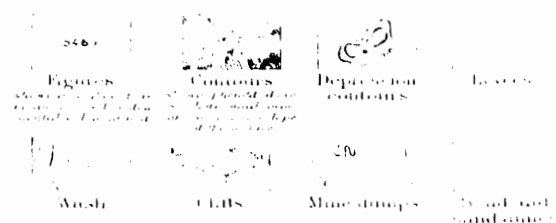
Applications for the separate topographic maps or for folios of the Geologic Atlas should be accompanied by cash, the exact amount—or by post-office money order, and should be addressed to—

THE DIRECTOR,

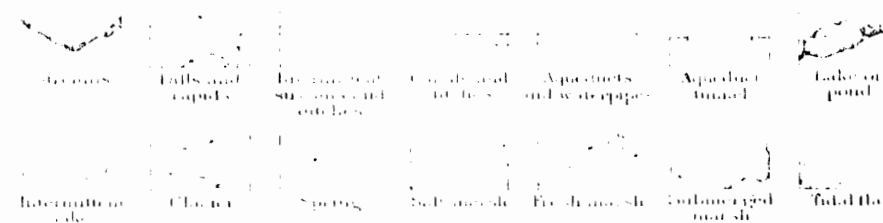
CONVENTIONAL SIGNS



RELIEF (printed in brown)



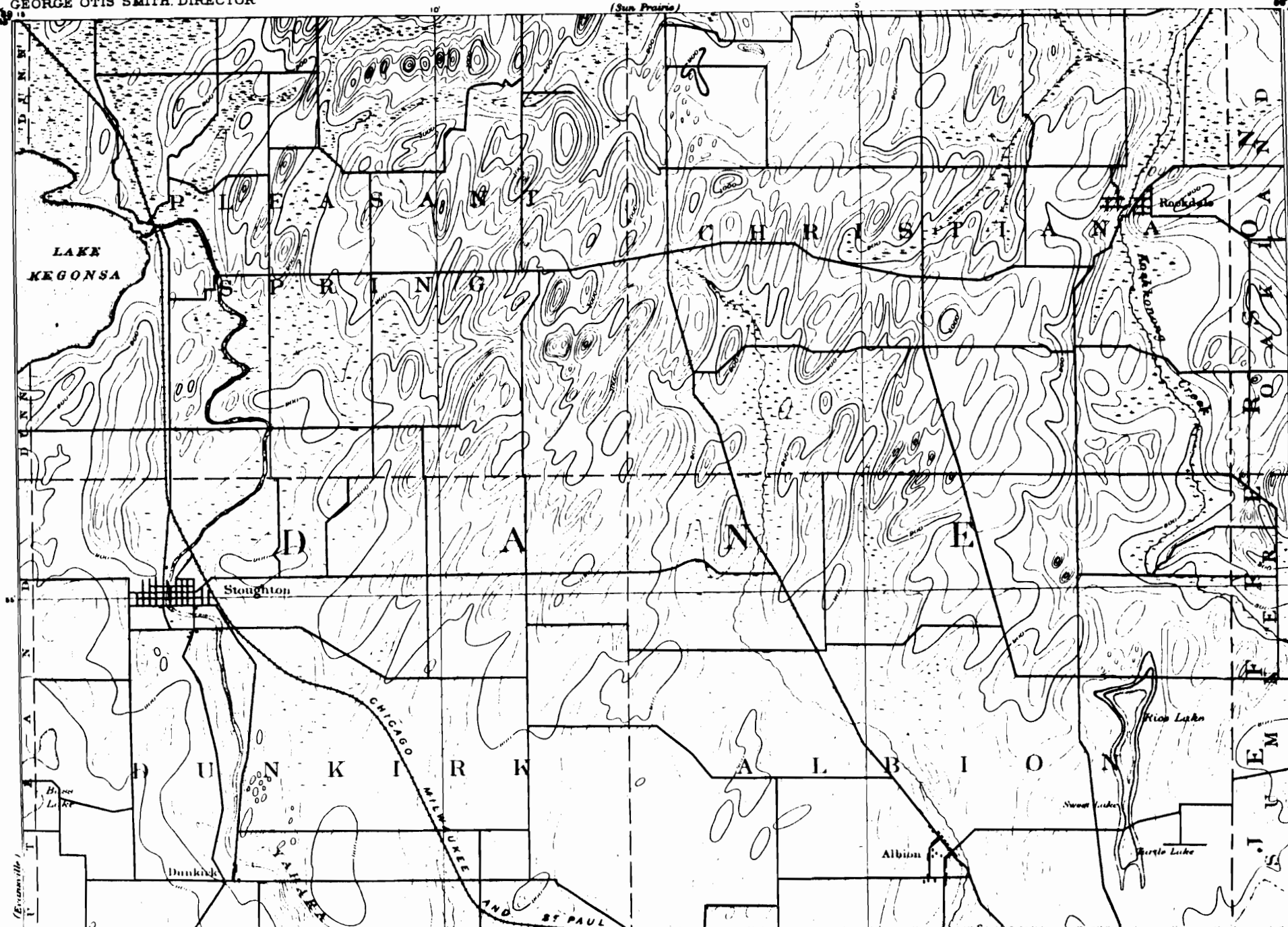
WATER (printed in blue)

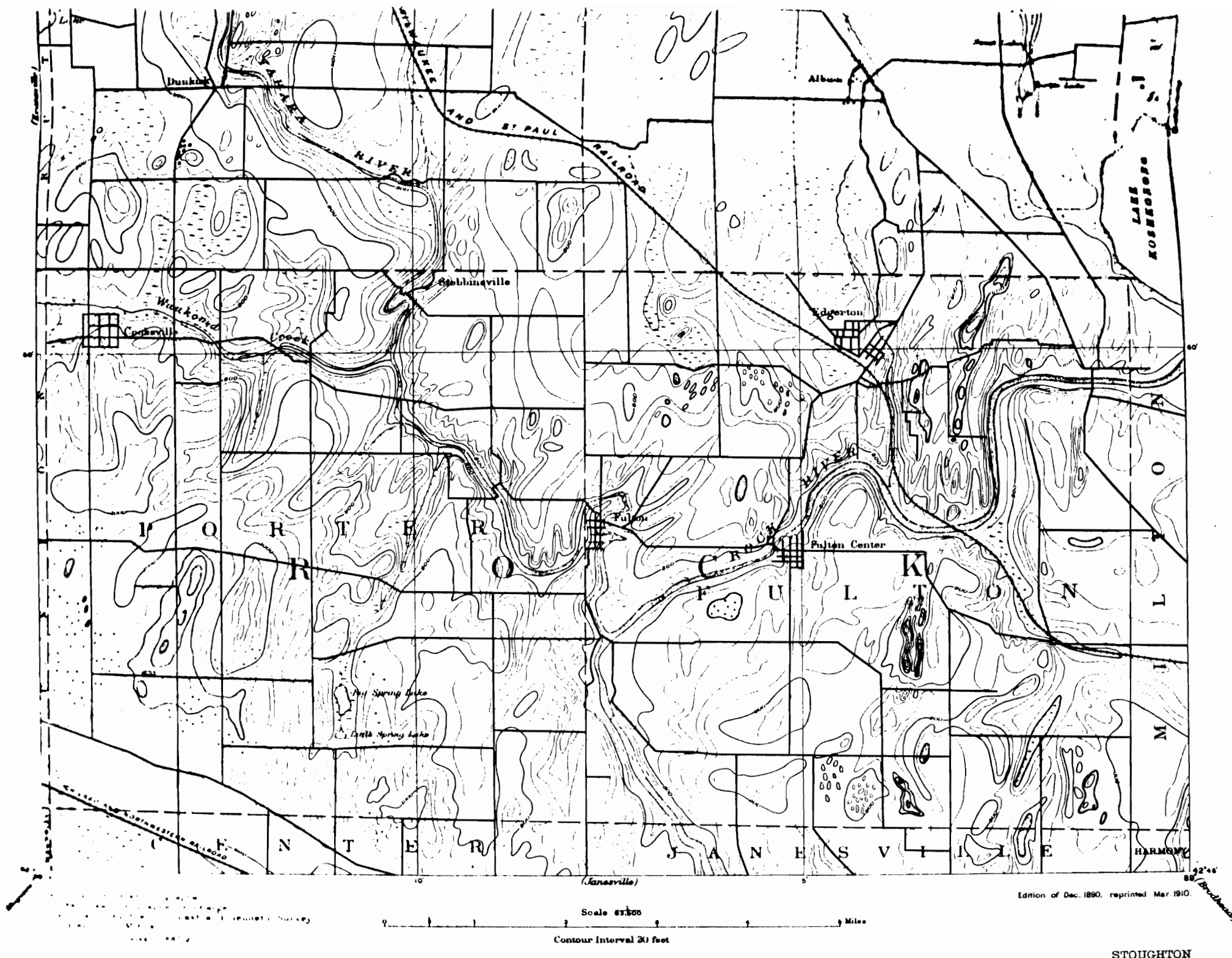


WOODS (shown in green, printed in green)

U.S. GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

WISCONSIN
STOUGHTON SHEET





THE TOPOGRAPHIC MAPS OF THE UNITED STATES

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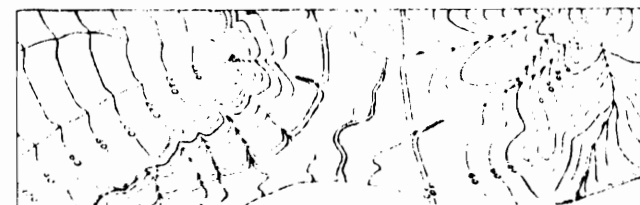
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The manner in which contour lines express altitude, form, and grade is shown in the figure below.



their lower ends by a sea cliff. The hill at the left terminates abruptly at the valley in a steep scarp, from which it slopes gradually away and forms an inclined table-land that is traversed by a few shallow gullies. On the map each of these features is represented, directly beneath its position in the sketch, by contour lines.

The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval differs according to the topography of the area mapped: in a flat country it may be as small as 1 foot; in a mountainous region it may be as great as 250 feet. Certain contour lines, every fourth or fifth one, are made heavier than the others and are accompanied by figures showing altitude. The heights of many points—such as road corners, summits, surfaces of lakes, and bench marks—are also given on the map in figures, which show altitudes to the nearest foot only. More exact altitudes—those of bench marks—as well as the geodetic coordinates of triangulation stations, are published in bulletins issued by the Geological Survey.

Lettering and the works of man are shown in black. Boundaries, such as those of a State, county, city, land grant, township, or reservation, are shown by continuous or broken lines of different kinds and weights. Metaled roads are shown by double lines, one of which is accentuated. Other public roads are shown by fine double lines, private and poor roads by dashed double lines, trails by dashed single lines.

Each quadrangle is designated by the name of a city, town, or prominent natural feature within it, and on the margins of the map are printed the names of adjoining quadrangles of which maps have been published. Over 3,000 quadrangles in the United States have been surveyed, and maps of them similar to the one on the other side of this sheet have been published.

The topographic map is the base on which the geology and mineral resources of a quadrangle are represented, and the map showing these features are bound together with a descriptive text to form a folio of the Geologic Atlas of the United States. More than 200 folios have been published.

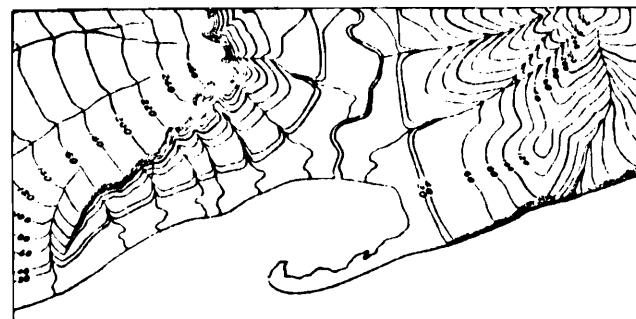
Index maps of each State and of Alaska and Hawaii showing the areas covered by topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the standard topographic maps may be obtained for 10 cents each; some special maps are sold at different prices. A discount of 10 per cent is allowed on an order for maps amounting to \$5 or more at the retail price. The geologic

public importance, such as much of the mountain or desert region of Arizona or New Mexico, are made with sufficient accuracy to be used in the publication of maps on a scale of $\frac{1}{250,000}$ (1 inch = nearly 2 miles), with a contour interval of 25 to 100 feet.

A topographic survey of Alaska has been in progress since 1898, and nearly 37 per cent of its area has now been mapped. About 10 per cent of the Territory has been covered by reconnaissance maps on a scale of $\frac{1}{400,000}$, or about 10 miles to an inch. Most of the remaining area surveyed in Alaska has been mapped on a scale of $\frac{1}{250,000}$, but about 4,000 square miles has been mapped on a scale of $\frac{1}{100,000}$.

About half of the Hawaiian Islands has been surveyed, and the resulting maps are published on a scale of $\frac{1}{250,000}$.

The features shown on these maps may be arranged in three groups—(1) water, including seas, lakes, rivers, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land surface; (3) culture (works of man), such as towns, cities, roads, railroads, and



The sketch represents a river valley that lies between two hills. In the foreground is the sea, with a bay that is partly inclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently sloping spurs separated by ravines. The spurs are truncated at

States. More than 200 folios have been published.

Index maps of each State and of Alaska and Hawaii showing the areas covered by topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the standard topographic maps may be obtained for 10 cents each; some special maps are sold at different prices. A discount of 40 per cent is allowed on an order for maps amounting to \$5 or more at the retail price. The geologic folios are sold for 25 cents or more each, the price depending on the size of the folio. A circular describing the folios will be sent on request.

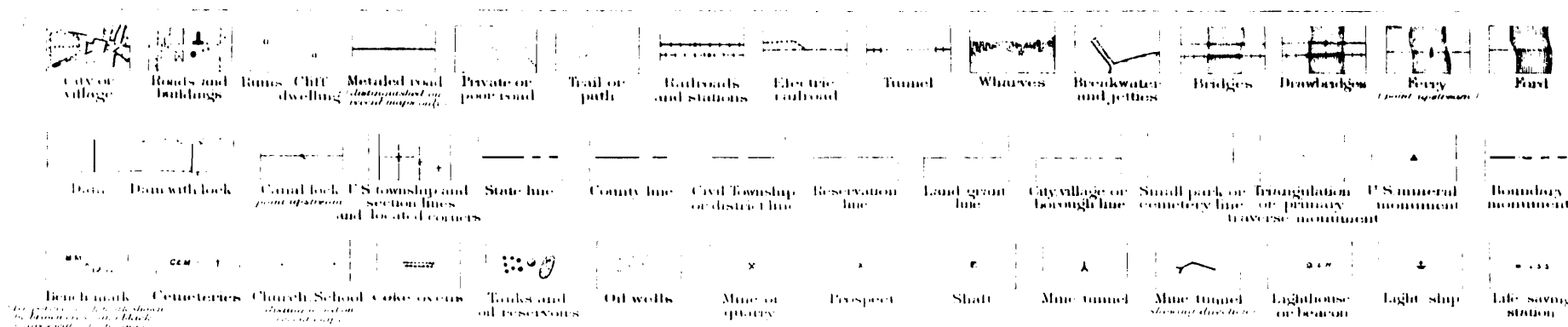
Applications for maps or folios should be accompanied by cash, draft, or money order (not postage stamps) and should be addressed to

THE DIRECTOR,
United States Geological Survey,
Washington, D. C.

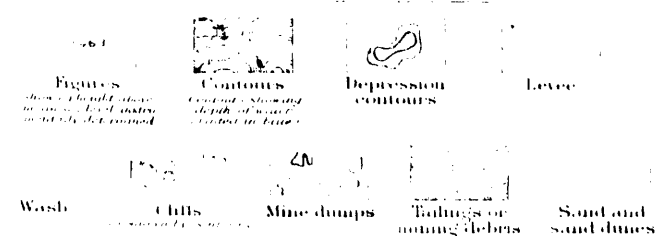
January, 1924.

CONVENTIONAL SIGNS

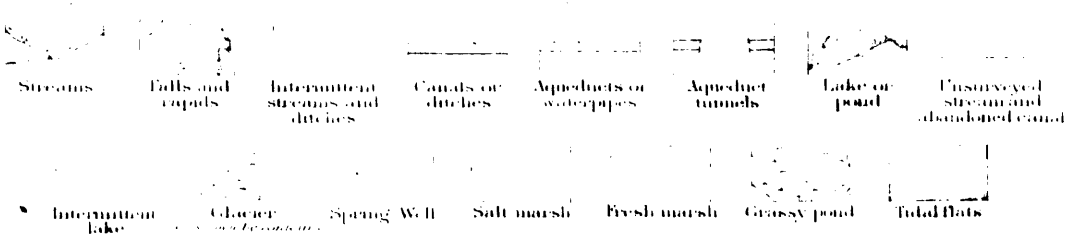
CULTURE (printed in black)



RELIEF (printed in brown)



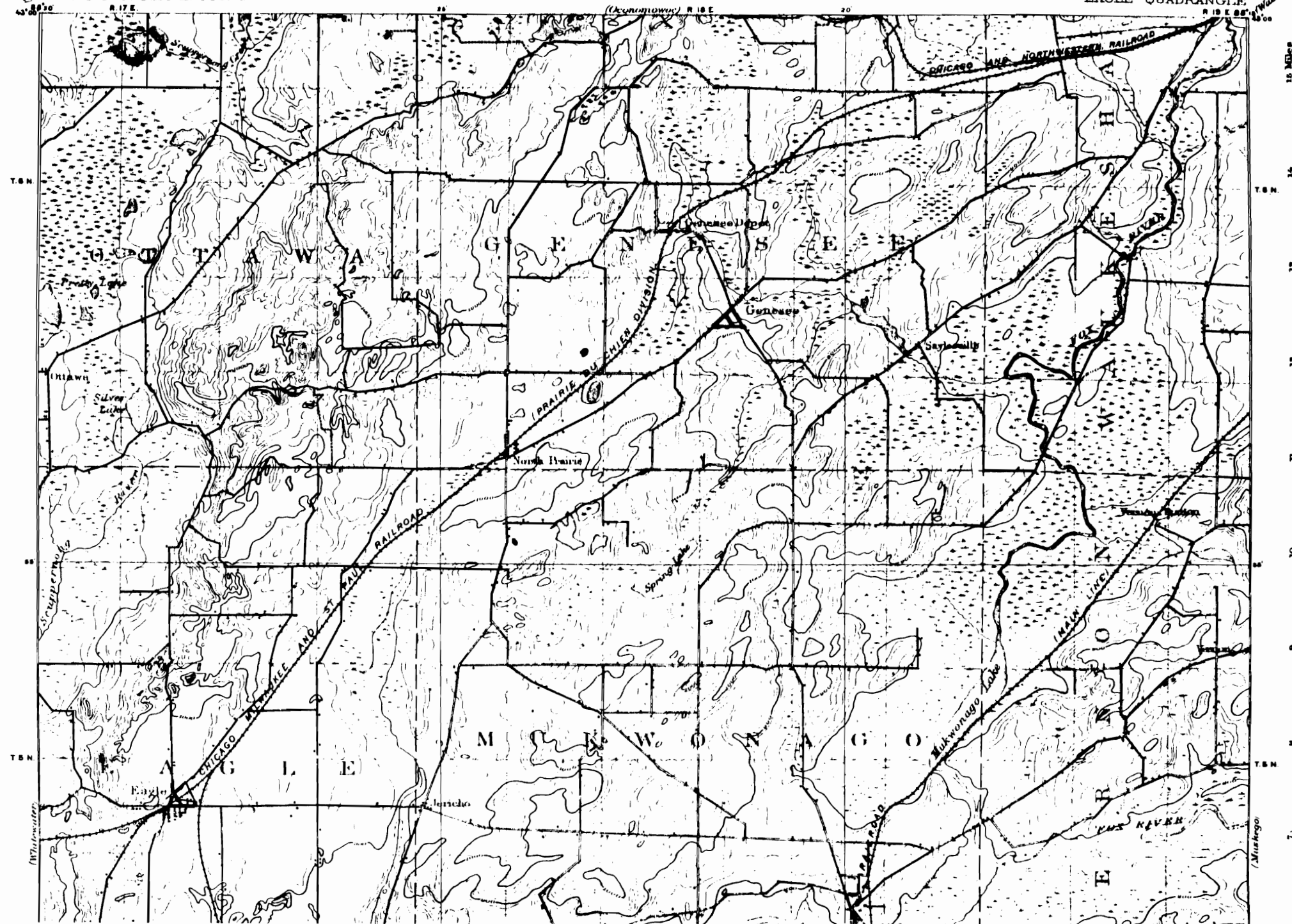
WATER (printed in blue)

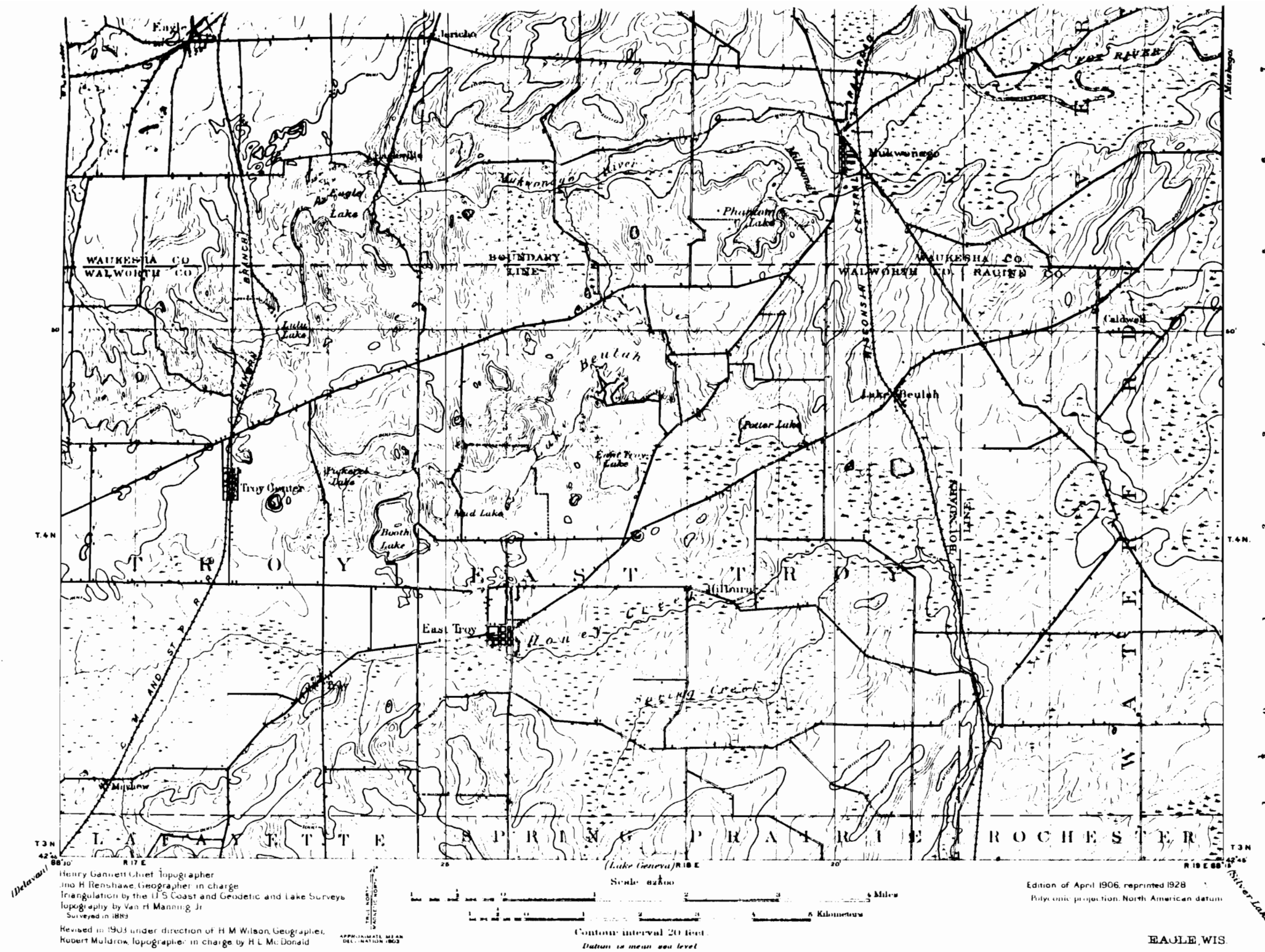


WOODS (when shown, printed in green)

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

WISCONSIN
EAGLE QUADRANGLE





Henry Gannett, Chief Topographer
 Jno H. Renshaw, Geographer in charge
 Triangulation by the U.S. Coast and Geodetic and Lake Surveys
 Topography by Van H. Manning, Jr.
 Surveyed in 1883
 Revised in 1903 under direction of H. M. Wilson, Geographer
 Robert Muldrow, Topographer in charge by H. L. McDonald

Edition of April 1906, reprinted 1928
 Polyconic projection, North American datum

EAGLE, WIS

THE TOPOGRAPHIC MAPS OF THE UNITED STATES

The United States Geological Survey is making a standard topographic atlas of the United States. This work has been in progress since 1882, and its results consist of published maps of more than 42 per cent of the country, exclusive of outlying possessions.

This topographic atlas is published in the form of maps on sheets measuring about 16½ by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for each map being that which is best adapted to general use in the development of the country, and consequently, though the standard maps are of nearly uniform size, they represent areas of different sizes. On the lower margin of each map are printed graphic scales showing distances in feet, meters, and miles. In addition, the scale of the map is shown by a fraction expressing a fixed ratio between linear measurements on the map and corresponding distances on the ground. For example, the scale $\frac{1}{62,500}$ means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 62,500 similar units on the earth's surface.

Although some areas are surveyed and some maps are compiled and published on special scales for special purposes, the standard topographic surveys for the United States proper and the resulting maps have for many years been divided into three types, differentiated as follows:

1. Surveys of areas in which there are problems of great public importance—relating, for example, to mineral development, reclamation, or reclamation of swamp areas—are made with sufficient accuracy to be used in the publication of maps on a scale of 1 inch = one-half mile, with a contour interval of 100 or 10 feet.

2. Surveys of areas in which there are problems of average public importance—such as most of the Nation's agricultural and grazing lands—are made with sufficient accuracy to be used in the publication of maps on a scale of 1 inch = one mile, with a contour interval of 200 feet.

3. Surveys of areas in which there are problems of minor public importance—such as most of the Nation's forest and game lands—are made with sufficient accuracy to be used in the publication of maps on a scale of 1 inch = one mile, with a contour interval of 200 feet.

The following table shows the approximate number of maps published in each of the three types of surveys.

Approximate number of maps published in each of the three types of surveys.

Approximate number of maps published in each of the three types of surveys.

Approximate number of maps published in each of the three types of surveys.

(works of man), such as towns, cities, roads, and railroads, are shown and explained below. Variations appear in some earlier maps, and additional features are represented in the special maps.

All the water features are represented in the same way: small streams and canals by single blue lines and the larger ones by double blue lines; the lakes and the sea by blue water lines or blue areas; and intermittent streams—those whose beds are dry for a part of the year—are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown or black. The maps are supplemented by shading showing the general slope of the land from the northwest across the area represented, for the purpose of giving the appearance of relief and thus aiding in the interpretation of the contour lines. A contour line represents an imaginary line on the ground to which every point of which is at the same altitude above sea level. Contour lines could be drawn at any altitude, but in practice only the contours at certain regular intervals of altitude are shown. The line of the sea coast itself is a contour, the datum of mean sea level being mean sea level. The 20-foot contour would be the shore line if the sea should rise 20 feet. Contour lines show the shape of the hills, mountains, and valleys, and also the altitude. Successive contour lines that are far apart on the map indicate a gentle slope; lines that are close together indicate a steep slope; and lines that run to one side of the map indicate a steep slope.

The manner in which contour lines are drawn and the grade is shown in the figure below.



Contour lines are drawn at regular intervals of altitude. The interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval differs according to the topography of the area mapped; in a flat country it may be as small as 1 foot; in a mountainous region it may be as great as 250 feet. Certain contour lines—every fourth or fifth one, are made heavier than the others and are accompanied by figures showing altitude. The heights of many points—such as road corners, summits, corners of lakes, and bench marks—are also given on the map.

Contours which show altitude to the nearest foot only. More important contours—those of bench marks—as well as the geodetic bench marks and triangulation stations, are published in bulletins issued by the Geological Survey.

Boundaries of the works of man are shown in black. Boundaries of a State, county, city, land grant, township or section, are shown by continuous or broken lines of different kinds and weights. Good motor or public roads are shown by thick double lines, poor motor or private roads by thin double lines, and by dashed single lines.

Each quadrangle is designated by the name of a city, town, or village within it, and on the margin of the map are given the names of adjoining quadrangles of the same scale published. Over 3,300 quadrangles in the United States have been surveyed, and maps of them have been published on the other side of this sheet have been published.

The topographic map is the base on which the other maps of the series are based. The maps are published, and the other maps are published on the same base. The maps are published, and the other maps are published on the same base.

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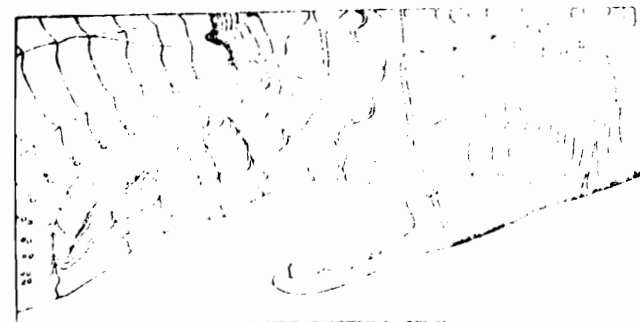
The topographic map is the base on which the other maps of the series are based. The maps are published, and the other maps are published on the same base.

public importance, such as much of the mountain or desert region of Arizona or New Mexico, are made with sufficient accuracy to be used in the publication of maps on a scale of $\frac{1}{62,500}$ (1 inch = nearly 2 miles), with a contour interval of 25 to 100 feet.

A topographic survey of Alaska has been in progress since 1898, and nearly 43 per cent of its area has now been mapped. About 10 per cent of the Territory has been covered by reconnaissance maps on a scale of $\frac{1}{125,000}$ or about 10 miles to an inch. Most of the remaining area surveyed in Alaska has been mapped on a scale of $\frac{1}{125,000}$ but about 1000 square miles have been mapped on a scale of $\frac{1}{62,500}$ or larger.

The Hawaiian Islands, with the exception of the small islands at the western end of the group, have been surveyed, and the resulting maps are published on a scale of $\frac{1}{62,500}$.

The features shown on these maps may be arranged in three groups: (1) water, including sea, lakes, rivers, canal, swamps, and other bodies of water; (2) relief, including mountain, hill, valley, and other features of the land surface; (3) culture



The sketch represents a river valley that lies between two hills: (1) the hill toward the sea with a bay that is partly inclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and is partly by

the sea, and 220 miles have been put in.

Index maps of each State and of Alaska and Hawaii, showing the areas covered by topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the standard topographic maps may be obtained for 10 cents each; some special maps are sold at different prices. A discount of 10 per cent is allowed on an order for maps amounting to 50 or more at the retail price. The geologic folios are sold for 25 cents or more each, the price depending on the size of the folio. A circular describing the folios will be sent on request.

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THE DIRECTOR,
United States Geological Survey,
Washington, D. C.

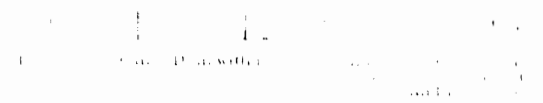
September, 1928.

STANDARD SYMBOLS

WATER



Coast of land. Island or building. Canal or ditch.



Canal or ditch. Canal or ditch. Canal or ditch.



Canal or ditch. Canal or ditch. Canal or ditch.



Canal or ditch. Canal or ditch. Canal or ditch.



Canal or ditch. Canal or ditch. Canal or ditch.



Canal or ditch. Canal or ditch. Canal or ditch.



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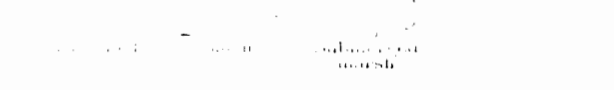
Canal or ditch. Canal or ditch. Canal or ditch.



Canal or ditch. Canal or ditch. Canal or ditch.



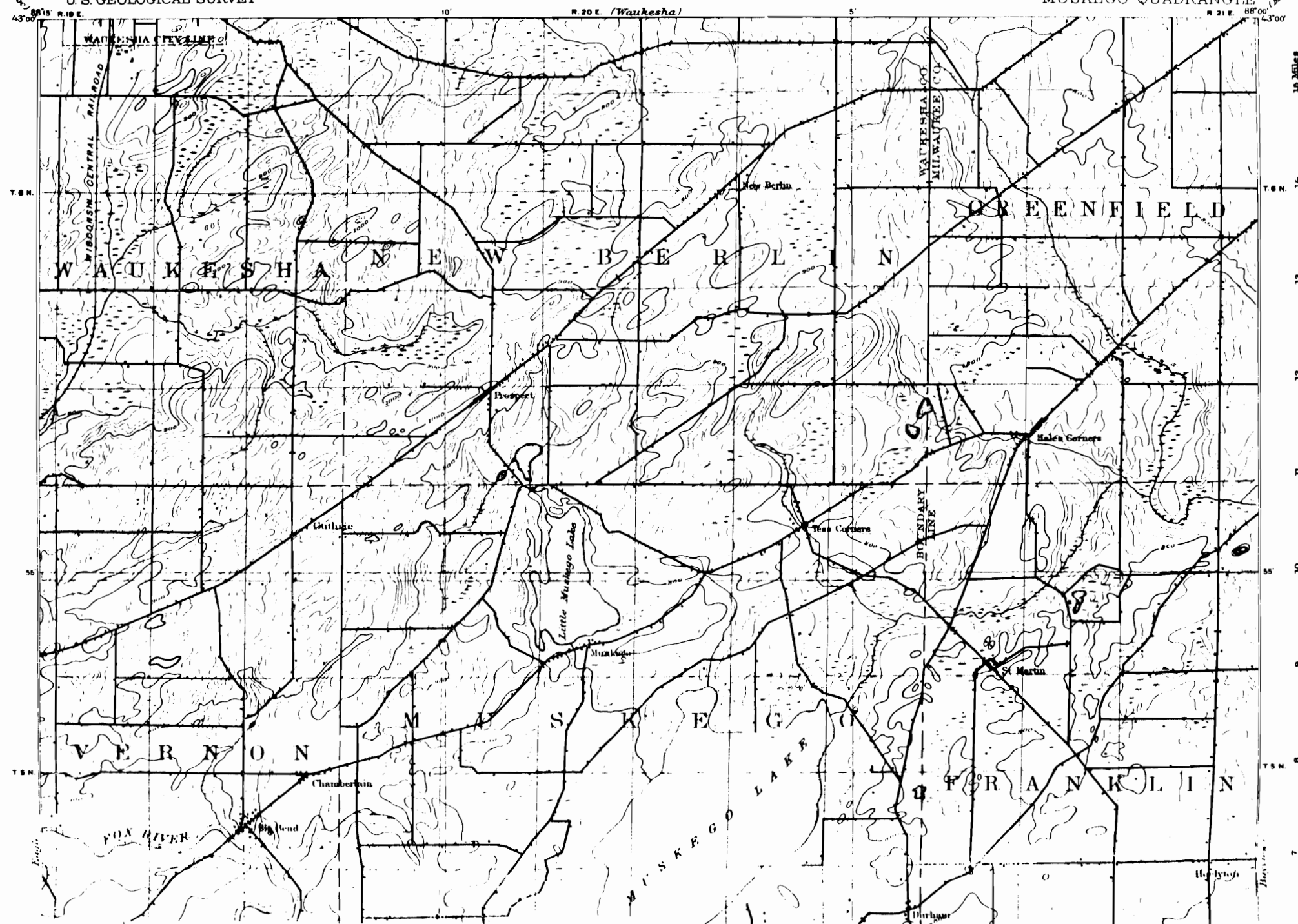
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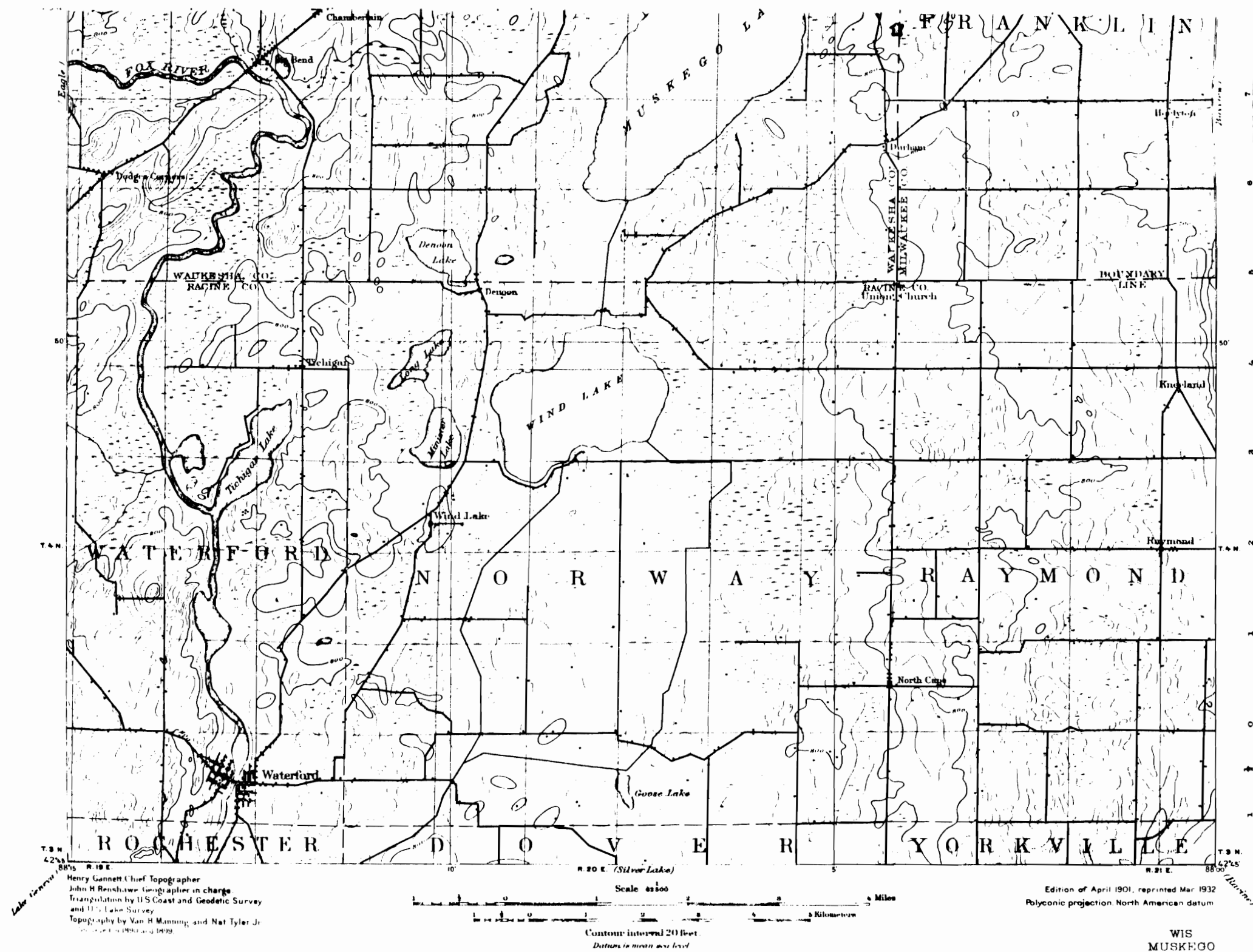


Canal or ditch. Canal or ditch. Canal or ditch.

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

WISCONSIN
MUSKEGO QUADRANGLE





DESCRIPTION OF THE TOPOGRAPHIC MAP OF THE UNITED STATES

The United States Geological Survey is making a topographic map of the United States. This work has been in progress since 1882, and more than one-third of the area of the country, excluding outlying possessions, has been mapped. The mapped areas are widely scattered, nearly every State being represented, as shown on the progress maps accompanying each annual report of the Director.

This great map is being published in atlas sheets of convenient size, which are bounded by parallels and meridians. The four-cornered division of land corresponding to an atlas sheet is called a *quadrangle*. The sheets are of approximately the same size: the paper dimensions are 20 by 16½ inches; the map occupies about 17½ inches of height and 11½ to 16 inches of width, the latter varying with latitude. Three scales, however, are employed. The largest scale is 1:62500, or very nearly one mile to one inch; i. e., one linear mile on the ground is represented by one linear inch on the map. This scale is used for the thickly settled or industrially important parts of the country. For the greater part of the country an intermediate scale of 1:125000, or about two miles to one inch, is employed. A third and still smaller scale of 1:250000, or about four miles to one inch, has been used in the desert regions of the far West. A few special maps on larger scales are made of limited areas in mining districts. The sheets on the largest scale cover 15' of latitude by 15' of longitude; those on the intermediate scale, 30' of latitude by 30' of longitude; and those on the smallest scale, 1° of latitude by 1° of longitude.

The features shown on the map may, for convenience, be classed in three groups: (1) *Physical features*, including seas, lakes, ponds, rivers, and the like; (2) *Political features*, including cities, towns, villages, and the like; (3) *Cultural features*, including roads, railroads, and the like.

times, are shown, not by full lines, but by lines of dots and dashes. Ponds which are dry during a part of the year are shown by oblique parallel lines. Salt-water marshes are shown by horizontal ruling interspersed with tufts of blue, and fresh-water marshes and swamps by blue tufts with broken horizontal lines.

Relief is shown by contour lines in *brown*. Each contour passes through points which have the same altitude. One who follows a contour on the ground will go neither uphill nor downhill, but on a level. By the use of contours not only are the shapes of the plains, hills, and mountains shown, but also the elevations. The line of the seacoast itself is a contour line, the datum, or zero of elevation being mean sea level. The contour line at, say, 20 feet above sea level is the line that would be the seacoast if the sea were to rise or the land to sink 20 feet. Such a line runs back into the valleys and forward around the peaks of hills and spurs. On a gentle slope this contour line is far from the present coast line, where on a steep slope it is near it. Four lines are drawn on a steep slope, far apart on the map, and on a gentle slope, much closer together, to represent the same contour, running together in one line on the seacoast, the one for the one above the other, and so on. In many parts of the country, especially in the mountainous regions, the valleys are so deep and the hills so high that the contour lines are so close together that they are shown by full lines, or short dashes, or dots, or a combination of these. The contour interval, or the vertical distance between two contour lines, is usually 20 feet, but in some cases it is 10 feet, and in some cases it is 40 feet.

The contour interval is usually 20 feet, but in some cases it is 10 feet, and in some cases it is 40 feet.

their descriptions, as well as the descriptions and geodetic coordinates of triangulation stations, are published in the annual reports and bulletins of the Survey. The publications pertaining to specified localities may be had on application.

The works of man are shown in *black*, in which color all lettering also is printed. Boundaries, such as State, county, city, land-grant, reservation, etc., are shown by broken lines of different kinds and weights. Houses are shown by small black squares which in the densely built portions of cities and towns merge into blocks. Roads are shown by fine double lines (full for the better roads, dotted for the inferior ones), trails by single dotted lines, and railroads by full black lines with cross lines. Other cultural features are represented by conventions which are easily understood.

The sheets composing the topographic atlas are designated by the name of a principal town or of some prominent natural feature within the quadrangle and the names of adjoining published sheets are printed on the margins. They are sold at five cents each when fewer than 100 copies are purchased, but when ordered in lots of 100 or more copies, whether of the same or of different sheets, the price is three cents each.

The topographic map is the base on which the facts of geology and the mineral resources of a quadrangle are represented. The topographic and geologic maps of a quadrangle are finally bound together in a single volume, a description of the district being included in the Geographic Atlas of the United States. These volumes are sold at twenty-five cents each, but such as are unusually large or small are sold at special prices.

The topographic map is the base on which the facts of geology and the mineral resources of a quadrangle are represented. The topographic and geologic maps of a quadrangle are finally bound together in a single volume, a description of the district being included in the Geographic Atlas of the United States. These volumes are sold at twenty-five cents each, but such as are unusually large or small are sold at special prices.

longitudes, those on the intermediate scale, 30' of latitude by 30' of longitude; and those on the smallest scale, 1° of latitude by 1° of longitude.

The features shown on this map may, for convenience, be classed in three groups: (1) *water*, including seas, lakes, ponds, rivers, and other streams, canals, swamps, etc.; (2) *relief*, including mountains, hills, valleys, cliffs, etc.; (3) *culture*, i. e., works of man, such as towns, cities, roads, railroads, boundaries, etc. The conventional signs used for these features are given below. Variations appear in some maps of earlier dates.

All water features are shown in blue, the smaller streams and canals in full blue lines, and the larger streams, lakes, and the sea by blue water-tinting. Certain streams, however, which dry during only a part of the year, their beds being dry at other

times, are shown by broken blue lines. Small hollows known as sinks are usually indicated by hachures, or short dashes, on the inside of the curve. The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval varies according to the character of the area mapped; in a flat country it may be as small as 5 feet; in a mountainous region it may be 200 feet. Certain contours, usually every fifth one, are accompanied by figures stating elevation above sea level. The heights of many definite points, such as road corners, railroad crossings, railroad stations, summits, water surfaces, triangulation stations, and bench marks, are also given. The figures in each case are placed close to the point to which they apply, and express the elevation to the nearest foot only. The exact elevations of bench marks and

other points are given in the notes accompanying the sheets, together, accompanied by a description of the district, to form a table of the Geologic Atlas of the United States. The tables are sold at twenty-five cents each, excepting that such as are unusually complicated are priced accordingly.

Applications for the separate topographic maps or for folios of the Geologic Atlas should be accompanied by cash—the exact amount—or by post-office money order, and should be addressed to—

THE DIRECTOR,

United States Geological Survey,

Washington, D. C.

May, 1909

O

CONVENTIONAL SIGNS

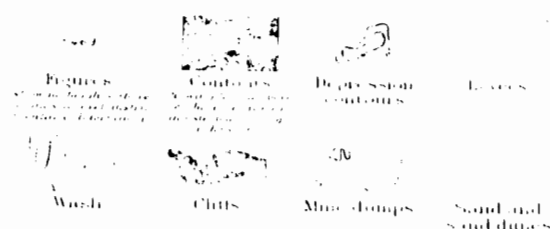
CULTURE

(printed in black)



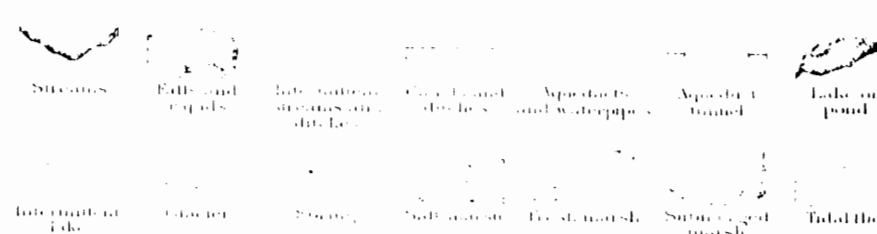
RELIEF

(printed in brown)



WATER

(printed in blue)



WOODS

(when shown, printed in green)

(Mankato)

U.S. GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR
R. 21 E.

TOPOGRAPHY

R. 22 E. (Milwaukee)

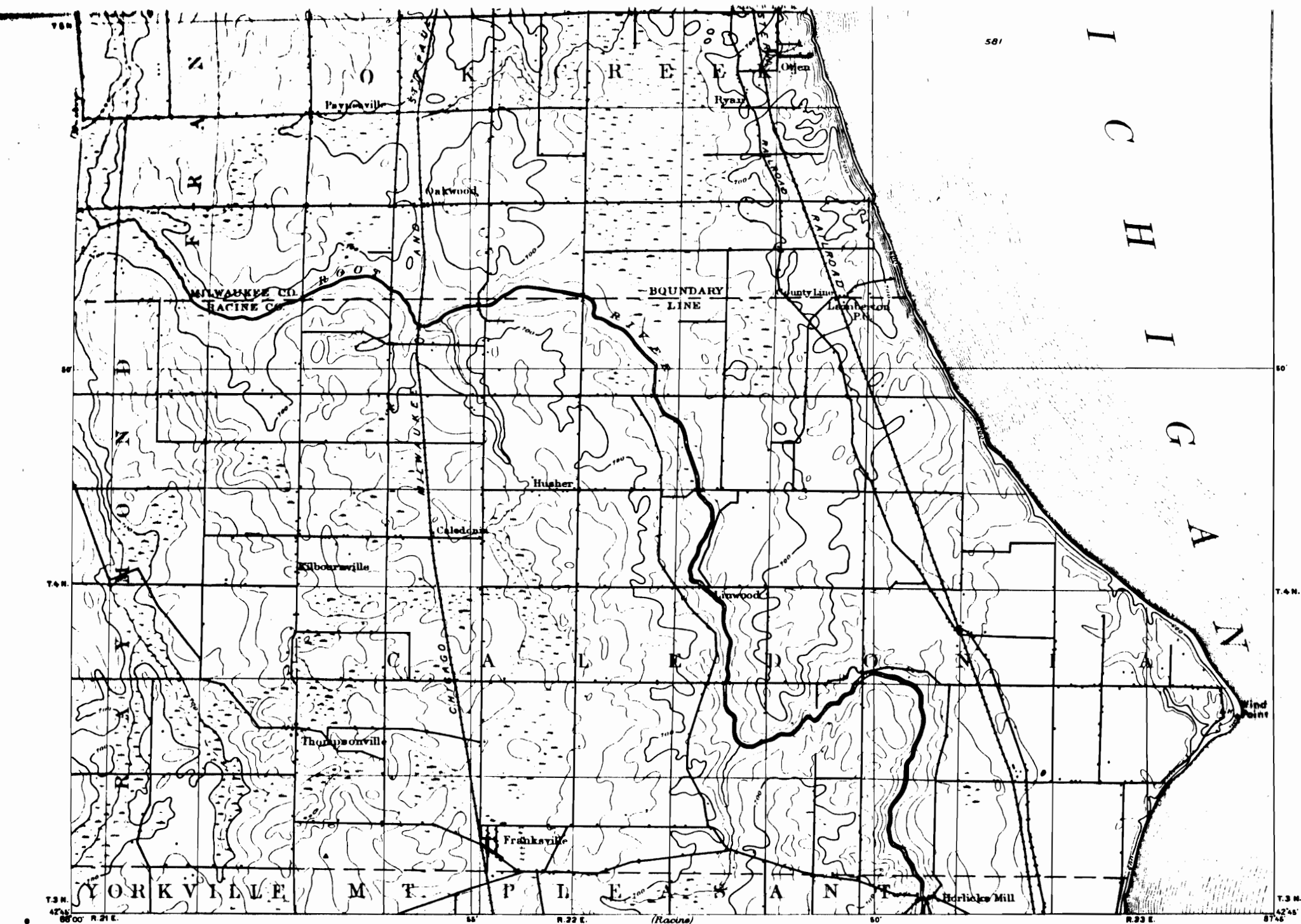
WISCONSIN
BAYVIEW QUADRANGLE
R. 23 E.

81°45' 43'00"



L
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C



Henry Gannett, Chief Topographer.
 John H. Renshaw, Geographer in charge.
 Triangulation by U.S. Coast and Geodetic Survey.
 and U.S. Lake Survey.
 Shore line by U.S. Lake Survey.
 Topography by Van H. Manning and Nat. Tyler Jr.
 Surveyed in 1890 and 1899.

Scale 61250
 Contour interval 20 feet.
 Datum is mean sea level.

Edition of Mar. 1901, reprinted Feb. 1910.

BAYVIEW

DESCRIPTION OF THE TOPOGRAPHIC MAP OF THE UNITED STATES

O

The United States Geological Survey is making a topographic map of the United States. This work has been in progress since 1882, and more than one-third of the area of the country, excluding outlying possessions, has been mapped. The mapped areas are widely scattered, nearly every State being represented, as shown on the progress maps accompanying each annual report of the Director.

This great map is being published in atlas sheets of convenient size, which are bounded by parallels and meridians. The four-cornered division of land corresponding to an atlas sheet is called a *quadrangle*. The sheets are of approximately the same size: the paper dimensions are 20 by 16 inches; the map occupies about 17½ inches of height and 11½ to 16 inches of width, the latter varying with latitude. Three scales, however, are employed. The largest scale is 1:62500, or very nearly one mile to one inch; i. e., one linear mile on the ground is represented by one linear inch on the map. This scale is used for the thickly settled or industrially important parts of the country. For the greater part of the country an intermediate scale of 1:125000, or about two miles to one inch, is employed. A third and still smaller scale of 1:250000, or about four miles to one inch, has been used in the desert regions of the far West. A few special maps on larger scales are made of limited areas in mining districts. The sheets on the largest scale cover 15' of latitude by 15' of longitude; those on the intermediate scale, 30' of latitude by 30' of longitude; and those on the smallest scale, 1° of latitude by 1° of longitude.

The features shown on this map may, for convenience, be classed in three groups: (1) *natural*, including seas, lakes, ponds, rivers and other streams, canals, swamps, etc.; (2) *physical*, including mountains, hills, valleys, etc.; and (3) *artificial*, i. e., works of man, such as towns, cities, roads, railroads, etc. These are represented by

lines, not by full lines, but by lines of dots and dashes. Ponds which are dry during a part of the year are shown by oblique parallel lines. Salt-water marshes are shown by horizontal ruling interspersed with tufts of blue, and fresh-water marshes and swamps by blue tufts with broken horizontal lines.

Relief is shown by contour lines in *brown*. Each contour passes through points which have the same altitude. One who follows a contour on the ground will go neither uphill nor downhill, but on a level. By the use of contours not only are the shapes of the plains, hills, and mountains shown, but also the elevations. The line of the seacoast itself is a contour line, the datum or zero of elevation being mean sea level. The contour line at, say, 20 feet above sea level is the line that would be the seacoast if the sea were to rise or the land to sink 20 feet. Such a line runs back into the valleys and forward around the points of hills and spurs. On a gentle slope this contour line is far from the present coast line, while on a steep slope it is near it. Thus a succession of these contour lines far apart on the map indicates a gentle slope; if close together, a steep slope; and if the contours run together in one line, as if each were vertically under the one above it, they indicate a cliff. In many parts of the country are depressions or hollows with no outlets. The contours of course surround these, just as they surround hills. Those sand hollows known as *sinks* are usually indicated by dashes, or short dashes, on the inside of the curve. The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval varies according to the character of the area mapped: in a flat country it may be as small as 5 feet; in a mountainous region it may be 200 feet. On the contours, usually every fifth one, are figures stating elevation above sea level.

Their descriptions, as well as the descriptions and geodetic coordinates of triangulation stations, are published in the annual reports and bulletins of the Survey. The publications pertaining to specified localities may be had on application.

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The sheets composing the topographic atlas are designated by the name of a principal town or of some prominent natural feature within the quadrangle and the names of adjoining published sheets are printed on the margins. They are sold at five cents each when fewer than 100 copies are purchased, but when ordered in lots of 100 or more copies, whether of the same or of different sheets, the price is three cents each.

The topographic map is the base on which the facts of geology and the mineral resources of a quadrangle are represented. The topographic and geologic maps of a quadrangle are finally bound together, accompanied by a description of the district, to form a folio of the Geologic Atlas of the United States. The folios are sold at twenty-five cents each, excepting that such as are unusually comprehensive are priced accordingly.

Applications for the separate topographic maps or for folios of the Geologic Atlas should be accompanied by cash, the exact amount, or by post-office money order, and should be addressed to

The price of this map is 5 cents.

latitude by 30' of longitude; and those on the smallest scale, 1' of latitude by 1' of longitude.

The features shown on this map may, for convenience, be classed in three groups: (1) *natural*, including seas, lakes, ponds, rivers and other streams, canals, swamps, etc.; (2) *relief*, including mountains, hills, valleys, cliffs, etc.; (3) *culture*, i. e., works of man, such as towns, cities, roads, railroads, boundaries, etc. The conventional signs used for these features are grouped below. Variations appear in some maps of earlier dates.

All water features are shown in *blue*, the smaller streams and canals in full blue lines, and the larger streams, lakes, and the sea by blue water forms. Certain areas, however, which they drain only a part of the year, their beds being dry at other

by hachures, or short dashes, on the inside of the curve. The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval varies according to the character of the area mapped; in a flat country it may be as small as 5 feet; in a mountainous region it may be 200 feet. Certain contours, usually every fifth one, are accompanied by figures stating elevation above sea level. The heights of many definite points, such as road corners, railroad crossings, railroad stations, canals, water surfaces, triangulation stations, and bench marks, are also given. The figures in each case are placed close to the point to which they apply, and express the elevation to the nearest foot only. The *spot* elevations of bench marks and

triet, to form a folio of the Geologic Atlas of the United States. The folios are sold at twenty-five cents each, excepting that such as are unusually comprehensive are priced accordingly.

Applications for the separate topographic maps or for folios of the Geologic Atlas should be accompanied by cash—the exact amount—or by post-office money order, and should be addressed to—

THE DIRECTOR,

United States Geological Survey,

Washington, D. C.

May, 1909.

CONVENTIONAL SIGNS

CULTURE (printed in black)

City or village	Roads and railroads	Private or secondary road	Trail or path	Railroads and stations	Electric railroad	Tunnel	Wharves	Breakwater and piers	Drawbridge	Bridges	Ferry	Fort
Dam	Lock	U.S. township and section lines	State line	County line	Civil township line	Reservation line	Land grant line	City village or borough line	Park or cemetery line	Triangulation station	U.S. mineral monument	Boundary monument
Bench mark	Cemeteries	Church or schoolhouse	Coke ovens	Oil wells	Mine or quarry	Prospect	Shaft	Mine tunnel (showing direction)	Mine tunnel (elevation unknown)	Light ship	Lighthouse or beacon	Life-saving station

RELIEF (printed in brown)

Figures	Contours	Depression contours	Levees
Wrecks	Cliffs	Tide dumps	Sand and sand dunes

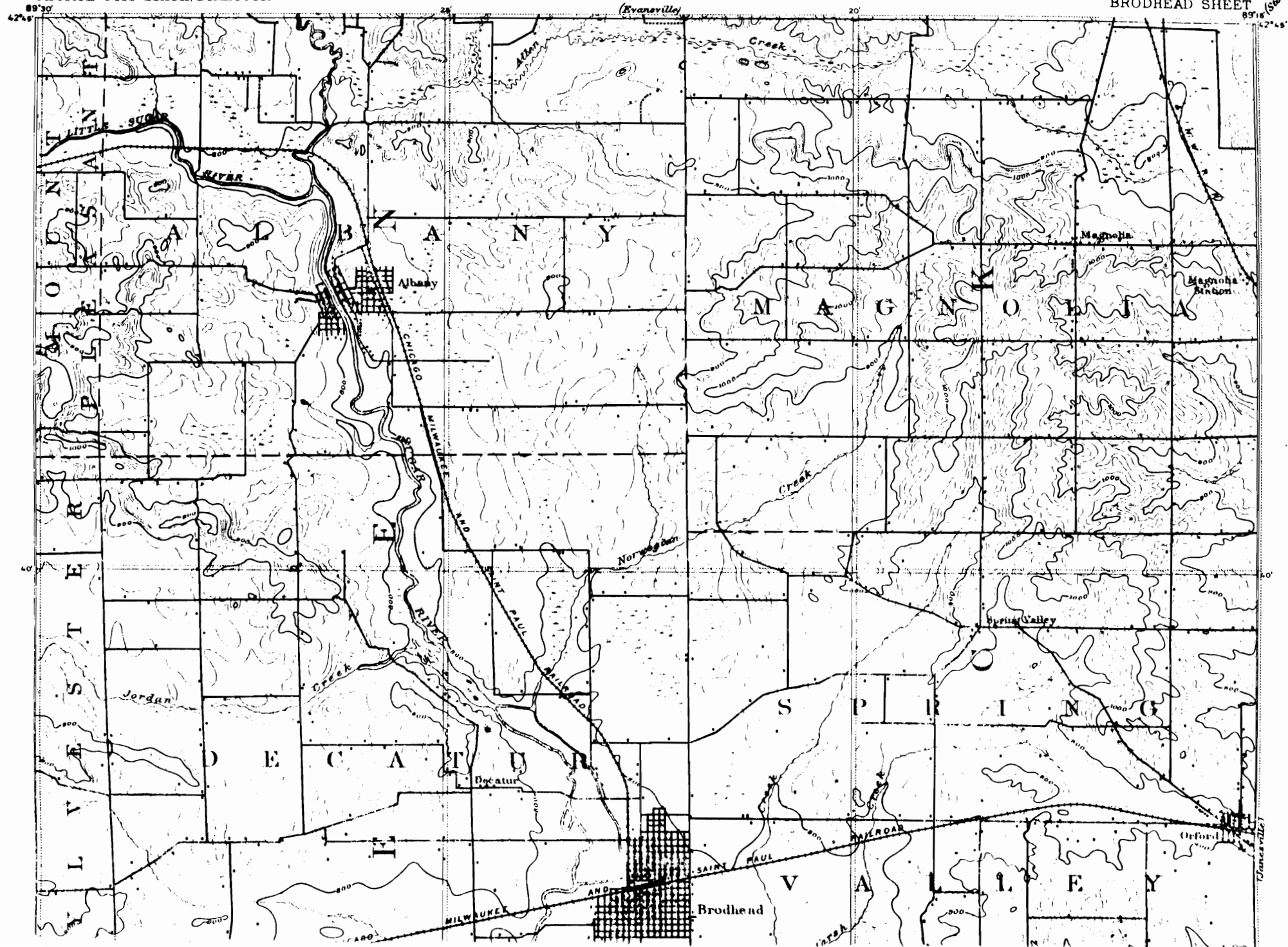
WATER (printed in blue)

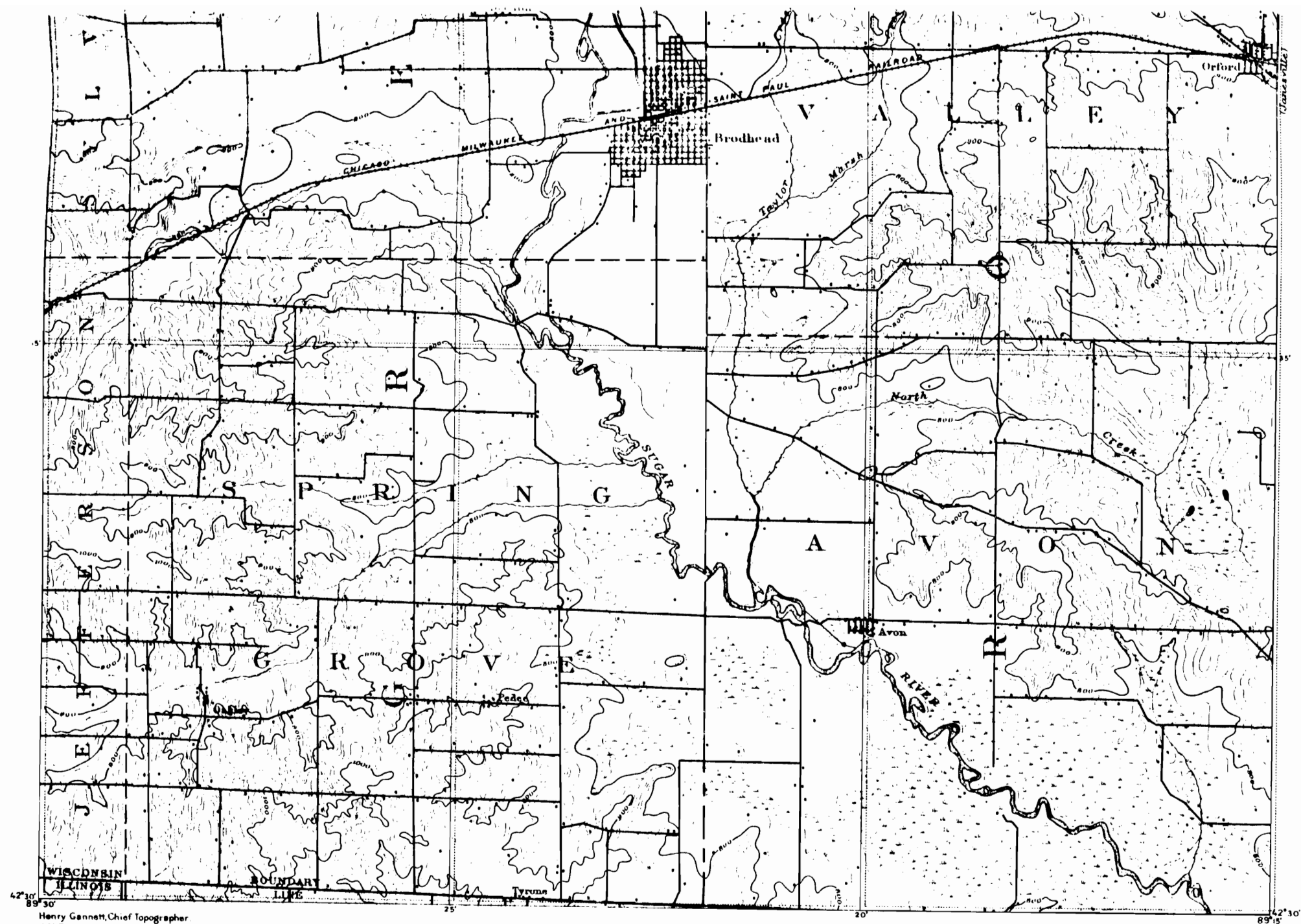
Streams	Falls and rapids	Intermittent streams and ditches	Canals and ditches	Aqueducts and waterpipes	Aqueduct tunnel	Lake or pond
Intermittent lake	Glaciers	Spring	Salt marsh	Fresh marsh	Submerged marsh	Tidal flat

WOODS (when shown, printed in green)

U.S. GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

WISCONSIN
BRODHEAD SHEET





Henry Gannett, Chief Topographer
 J. H. Renshaw, Geographer in charge
 Triangulation by U. S. Coast and Geodetic Survey
 Topography by Van H. Manning Jr.
 Surveyed in 1891

Scale 1:250
 Contour Interval 20 feet.
 Datum is mean sea level.

Dotted lines show corrected position of meridians and parallels.

Edition of Oct 1893 reprinted May 1910.

BRODHEAD

THE TOPOGRAPHIC MAPS OF THE UNITED STATES

The United States Geological Survey is making a topographic atlas of the United States. This work has been in progress since 1902, and it is now expected that the atlas will be completed in 1925. The atlas will be a series of maps, each showing a different part of the United States. The maps will be made on a scale of 1:250,000, and will show the topography, hydrography, and political boundaries of the United States. The atlas will be a valuable reference work for anyone interested in the geography of the United States.

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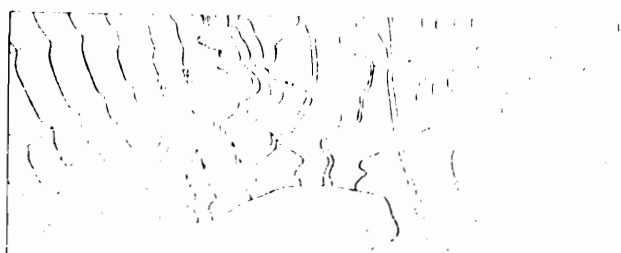
of the country has been in progress since 1898, and the topographic reconnaissance has now been completed. The scale of the topographic sheets is 1:100,000, or 1 inch to 10 miles. The topographic reconnaissance work, the results of which are now published at a scale of about 10 miles to an inch, has covered nearly all the remaining two-thirds of the original area. It has been published on a scale of 1:250,000, or about 4 miles to an inch. These maps are large-scale representations, 2° of latitude by 4° of longitude. A few small-scale maps, of economic importance, aggregating about 100,000 square miles, have been surveyed in greater detail and published on a scale of 1:62,500, or about a mile to an inch.

The first of these, the "Hudson-Hind," was begun in 1910 and

All water features are printed in *italics*; the smaller streams and creeks in full case lines and the larger streams, lakes, and reservoirs in underlined. Intertribal streams—those whose boundaries at least three months in the year are reached by more than two tribes—are indicated by dashes.

Read the contour lines in *Lesson 1*. A contour on the ground passes through points that have the same altitude. On a map, a close contour will go neither uphill nor downhill but around it. The contour lines on the map show not only the shape of the hills, mountains, and valleys, but also their steepness. The line of the sea coast itself is a contour line, the elevation or zero of elevation being mean sea level. The contour line 20 feet above sea level would be the shore line if the water were to rise or the land to sink 20 feet. On a gentle slope this contour is far from the present coast; on a steep slope it is near the coast. Where successive contour lines are far apart on the map they indicate a gentle slope; where they are close together they indicate a steep slope; and where they run together in one line they indicate a cliff.

The manner in which contour lines express altitude, form, and grade is shown in the figure below.



by a sea cliff. The hill on the left terminates abruptly at the valley in a steep scarp. It slopes gradually back away from the scarp and forms an inclined table-land, which is traversed by a few shallow gullies. On the map each of these features is indicated, directly beneath its position in the sketch, by contour lines.

The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval differs according to the character of the area mapped; in a flat country it may be as small as 5 feet; in a mountainous region it may be 250 feet. Certain contour lines, every fourth or fifth one, are made heavier than the others and are accompanied by figures stating elevation above sea level. The heights of many points, such as road corners, summits, surfaces of lakes, and bench marks, are also given on the map in figures, which express the elevations to the nearest foot only. More exact elevations of bench marks, as well as geodetic coordinates of triangulation stations, are published in bulletins issued by the Geological Survey. A bulletin pertaining to any State may be had on application.

The works of man are shown in *black*, in which color all lettering also is printed. Boundaries, such as those of a State, county, city, land grant, township, or reservation, are shown by continuous or broken lines of different kinds and weights. Public and through roads are shown by fine double lines; private and poor roads by dashed double lines; trails by dashed single lines.

Each quadrangle mapped for the topographic atlas is designated by the name of a principal town or of some prominent natural feature within the quadrangle, and on the margins of the maps are printed the names of adjoining quadrangles for which atlas sheets have been published or are in preparation. The sheets are sold at 10 cents each in lots of less than 50 copies, or at 6 cents each in lots of 50 or more copies, whether of the same or of different sheets.

Each topographic map is the base on which the geology and the geologic time of a quadrangle are represented, the maps forming these themes being bound together, with a description of the quadrangle, to form a folio of the *Geologic Atlas of the United States*. Circular, following by index maps the published topographic, geologic, and geologic folios, comprise

A survey of the Hawaiian Islands was begun in 1910 and the resulting maps are being published on a scale of 1:62,500.

The features shown on these atlas sheets or maps may be classed in three groups—(1) *water*, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) *relief*, including mountains, hills, valleys, and other elevations and depressions; (3) *culture* (works of man), such as towns, cities, roads, railroads, and boundaries. The conventional signs used for these features are shown below, with explanations. Variations appear on some earlier maps.



The sketch represents a river valley between two hills. In the foreground is the sea, with a bay that is partly inclosed by a hooked land bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently sloping spurs separated by ravines. The spurs are truncated at their lower ends

of the same of of tubercle success,

The topographic map is the base on which the geology and the mineral resources of a quadrangle are represented, the maps showing these features being bound together, with a description of the quadrangle, to form a folio of the Geologic Atlas of the United States. Circulars showing by index maps the published topographic atlas sheets and geologic folios covering any State or region will be sent free on application.

Applications for maps or folios should be accompanied by cash—the exact amount—or by post-office money order and should be addressed to—

THE DIRECTOR,

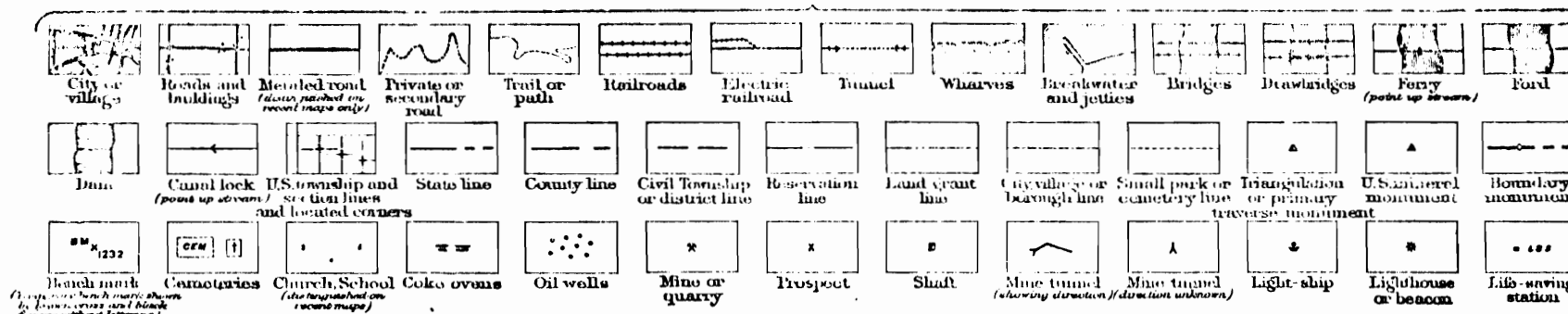
United States Geological Survey,

Washington, D. C.

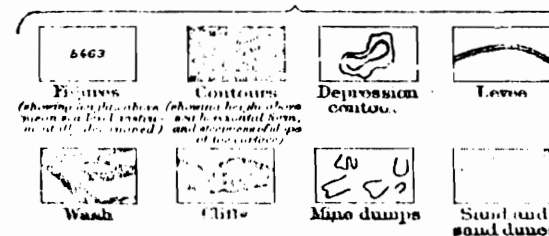
January, 1913.

CONVENTIONAL SIGNS

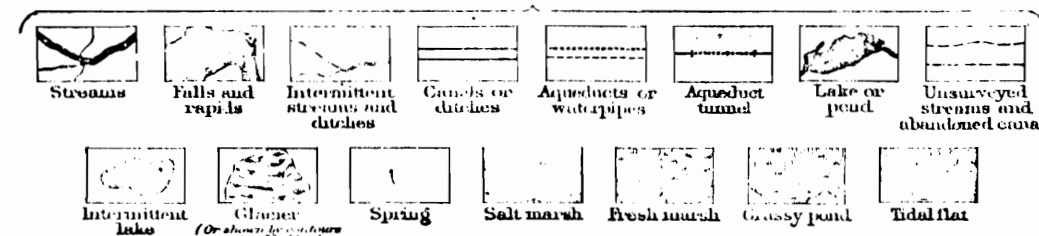
CULTURE
(printed in black)



RELIEF
(printed in brown)



WATER
(printed in blue)

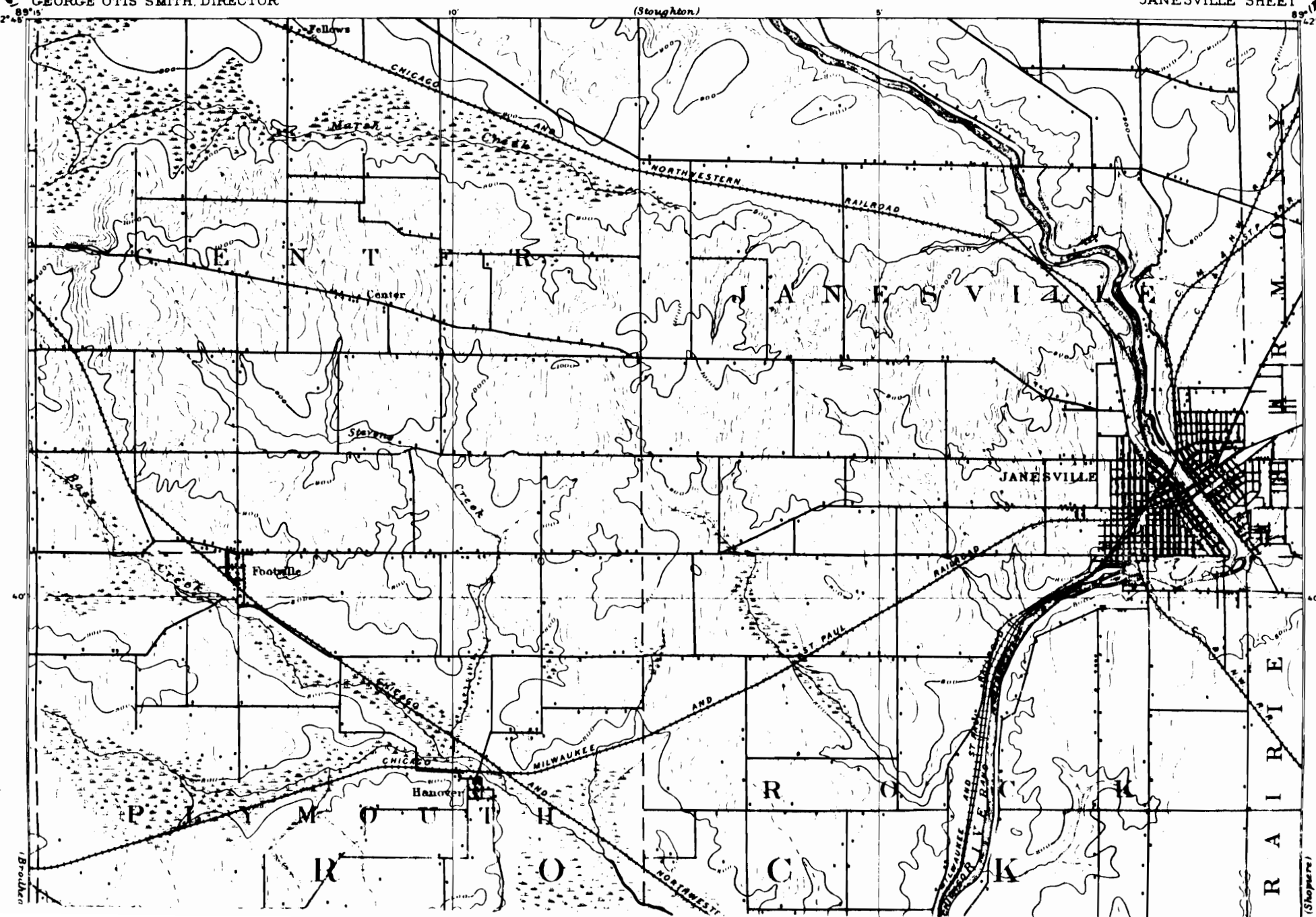


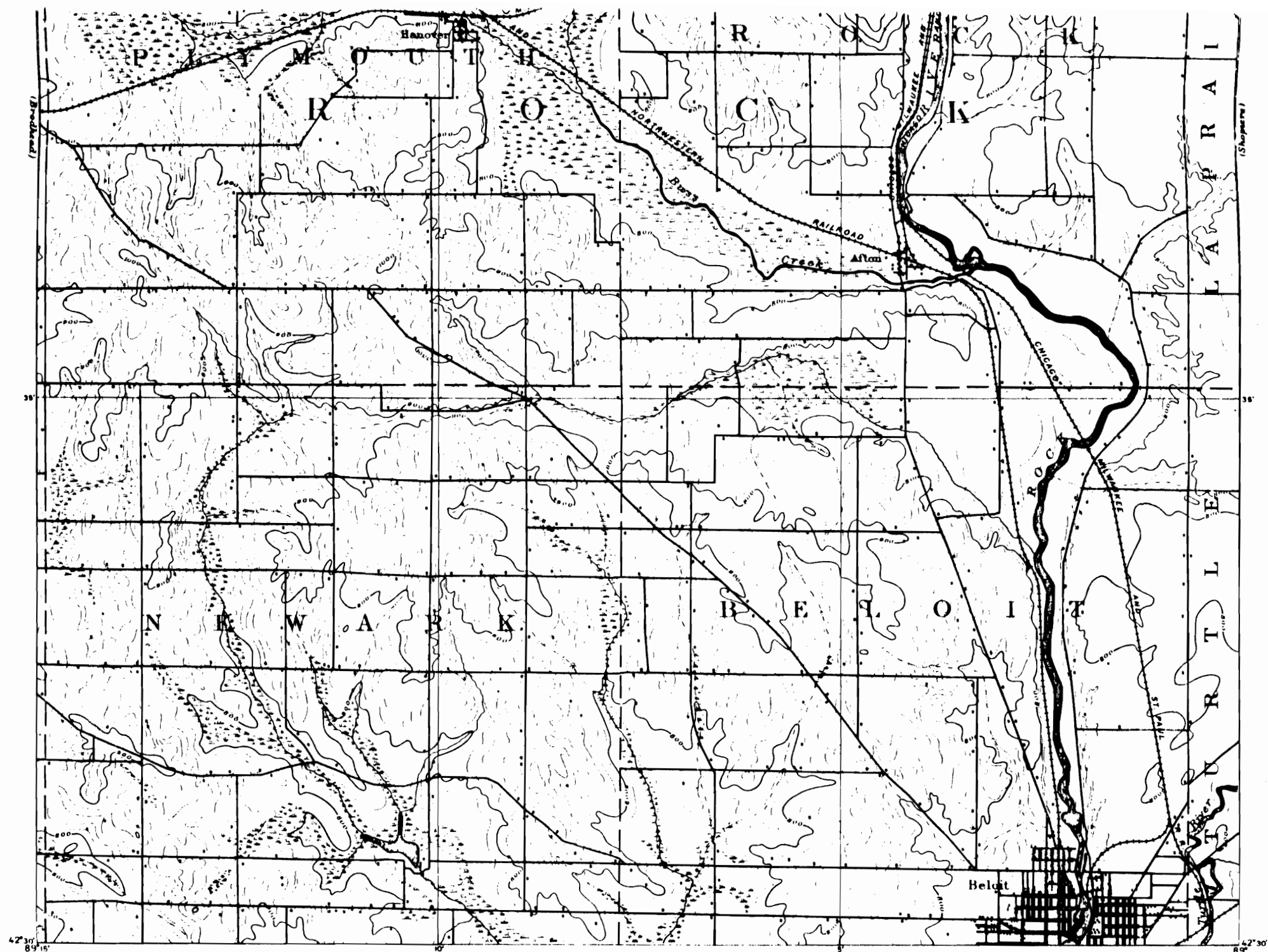
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(when shown, printed in green)

U.S. GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

WISCONSIN
JANESVILLE SHEET





Henry Gannett, Chief Topographer
 J. H. Kershaw, Geographer in charge
 Triangulation by U. S. Coast and Geodetic Survey
 Topography by Van H. Manning, Jr.

Scale 62,500
 Contour Interval 20 feet

Edition of Sept. 1913, reprinted Oct. 1913.

JANESVILLE

THE TOPOGRAPHIC MAP

The United States Geological Survey is making a standard topographic atlas of the United States. This work has been in progress since 1882, and its results consist of published maps of more than 42 per cent of the country, exclusive of outlying possessions.

This topographic atlas is published in the form of maps on sheets measuring about 16 1/2 by 20 inches. Under the standard plan adopted the country is divided into quadrangles about 1 by 1 by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for each map being that which is best adapted to the conditions in the development of the country, and consequently, though the standard maps are of nearly uniform size, they represent areas of different sizes. On the lower margin of each map are printed graphic scales showing distances in feet, meters, and miles. In addition, the scale of the map is shown by a fraction expressing a fixed ratio between linear measurement on the map and corresponding distances on the ground. For example, the scale 1/62,500 means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 62,500 similar units on the earth's surface.

Although some areas are surveyed and some maps are compiled and published on special scales for special purposes, the standard topographic surveys for the United States proper and the resulting maps have for many years been divided into three types, differentiated as follows:

1. Surveys of areas in which there are problems of great public importance, such as, for example, to mineral development, to irrigation, or to location of a large public building, and surveys of areas in which the problems of

navigation, commerce, and transportation are of importance.

2. Surveys of areas in which the problems of navigation, commerce, and transportation are of importance, and surveys of areas in which the problems of navigation, commerce, and transportation are of importance.

3. Surveys of areas in which the problems of navigation, commerce, and transportation are of importance, and surveys of areas in which the problems of navigation, commerce, and transportation are of importance.

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18. Surveys of areas in which the problems of navigation, commerce, and transportation are of importance, and surveys of areas in which the problems of navigation, commerce, and transportation are of importance.

19. Surveys of areas in which the problems of navigation, commerce, and transportation are of importance, and surveys of areas in which the problems of navigation, commerce, and transportation are of importance.

20. Surveys of areas in which the problems of navigation, commerce, and transportation are of importance, and surveys of areas in which the problems of navigation, commerce, and transportation are of importance.

21. Surveys of areas in which the problems of navigation, commerce, and transportation are of importance, and surveys of areas in which the problems of navigation, commerce, and transportation are of importance.

22. Surveys of areas in which the problems of navigation, commerce, and transportation are of importance, and surveys of areas in which the problems of navigation, commerce, and transportation are of importance.

1:250,000 (1 inch = nearly 2 miles), with a contour interval of 25 to 100 feet.

A topographic survey of Alaska has been in progress since 1898, and nearly 43 per cent of its area has now been mapped. About 10 per cent of the Territory has been covered by reconnaissance maps on a scale of $\frac{1}{250,000}$, or about 10 miles to an inch. Most of the remaining area surveyed in Alaska has been mapped on a scale of $\frac{1}{500,000}$, but about 4,000 square miles have been mapped on a scale of $\frac{1}{250,000}$ or larger.

The Hawaiian Islands, with the exception of the small islands at the western end of the group, have been surveyed, and the resulting maps are published on a scale of $\frac{1}{250,000}$.

The features shown on these maps may be arranged in three groups: (1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land surface; (3) culture,



The features shown on these maps may be arranged in three groups: (1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land surface; (3) culture,

including cities, towns, villages, and other human-made features. The maps are published on a scale of $\frac{1}{250,000}$ or larger.

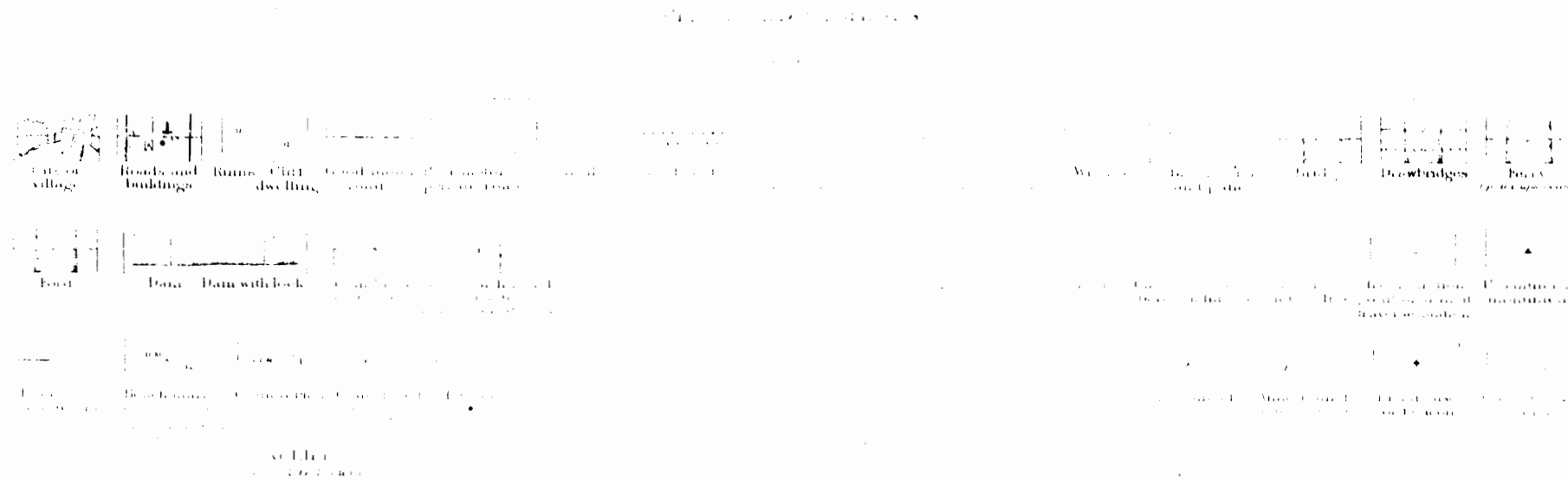
The maps are published on a scale of $\frac{1}{250,000}$ or larger.

THE DIRECTOR,

United States Geological Survey,

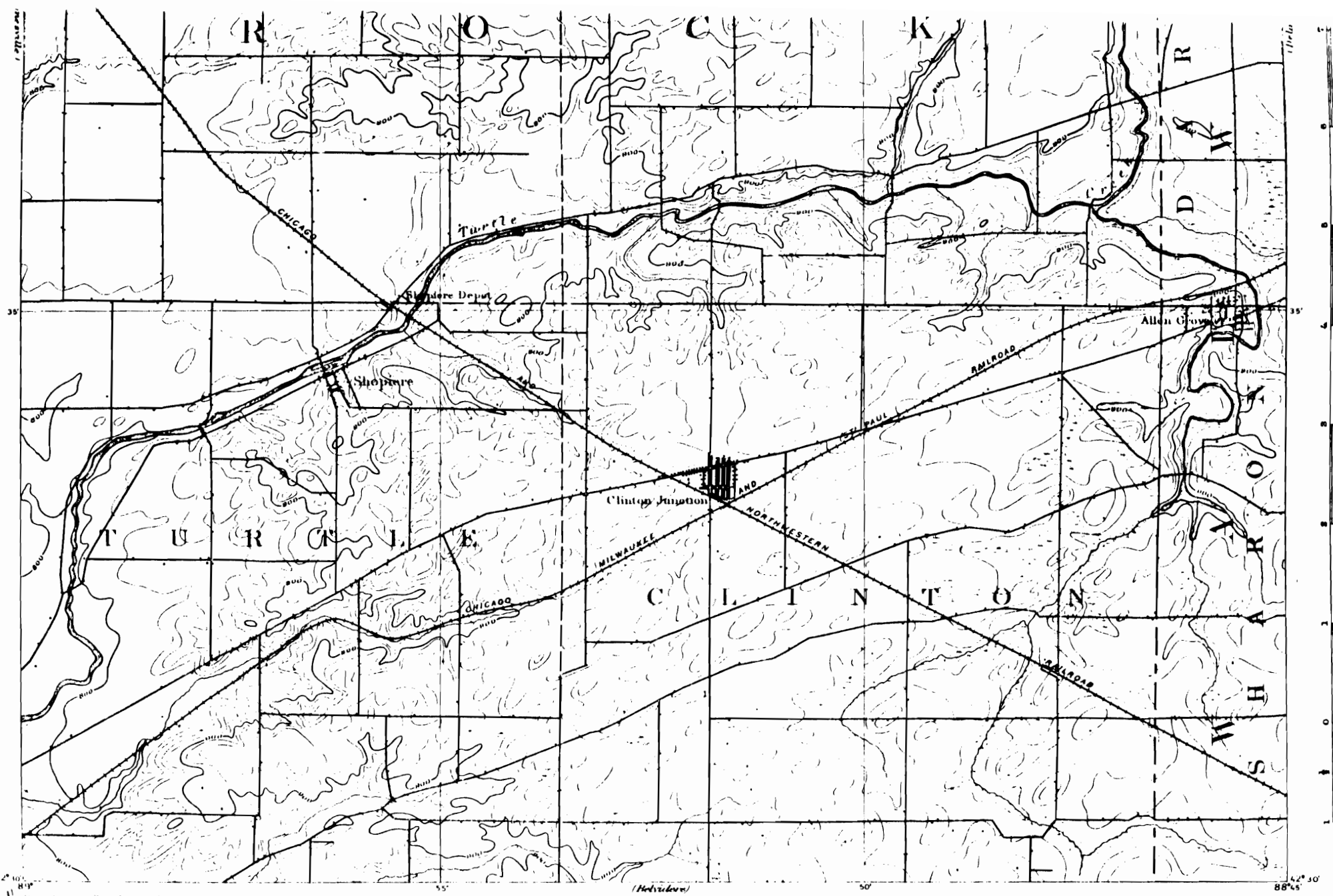
Washington, D. C.

September, 1908.



Topographic map of Johnstown, Harmony, and Bradford counties, Pennsylvania. The map shows Johnstown Center and Johnstown, with a dashed line indicating the Johnstown Branch of the Erie Railroad. It also shows Emerald Grove and Fairfield. The map is labeled with county names: HARMONY, JOHNSTOWN, and BRADFORD. The Erie Railroad is labeled vertically on the right side.





Henry Gannett Chief Topographer
 U. S. Geological Survey
 Topography by Van H. Manning Jr.
 Published in 1893

Scale 1:62,500
 Contour Interval 20 feet
 1 2 3 4 Miles

Edition of Sept. 1893, reprinted 1933.
 Polyconic projection

WIS.
 SHOPIERE

THE TOPOGRAPHIC MAPS OF THE UNITED STATES

The United States Geological Survey is making a standard topographic atlas of the United States. This work has been in progress since 1882, and its results consist of published maps of more than 42 per cent of the country, exclusive of outlying possessions.

This topographic atlas is published in the form of maps on sheets measuring about 16½ by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for each map being that which is best adapted to general use in the development of the country, and consequently, though the standard map scale is of nearly uniform size, they represent areas of different size. On the lower margin of each map are printed graphic scales showing distance in feet, meter, and mile. In addition, the scale of the map is shown by a fraction expressing a fixed ratio between linear measurement on the map and corresponding distance on the ground. For example, the scale 1 inch = 1 mile on the map (such as 1 inch, 1 foot, or 1 mile) represents 62,500 similar units on the earth's surface.

When the same areas are surveyed and some maps are completed and published on special scales for special purposes, the standard topographic surveys for the United States proper and its adjacent maps have for many years been divided into three types, differentiated as follows:

1. Survey of areas in which there are problems of great scientific importance, relating, for example, to mineral development, irrigation, or reclamation of swamp areas, are made with sufficient accuracy to be used in the publication of maps on a scale of 1 inch = one-half mile, with a contour interval of 10 to 20 feet.

2. Survey of areas in which there are problems of average scientific importance, such as most of the basin of the Mississippi River. Reconnaissance made with sufficient accuracy to be used in the publication of maps on a scale of 1 inch = nearly 1 mile, with a contour interval of 10 to 25 feet.

3. Survey of areas in which the problems are of minor public importance, such as much of the mountainous western part of Arizona or New Mexico, are made with sufficient accuracy to be used in the publication of maps on a scale of 1 inch = nearly 2 miles, with a contour interval of 10 to 100 feet.

The topographic survey of Alaska has been in progress since

(works of man, such as towns, cities, roads, railroads, and boundaries. The symbols used to represent these features are shown and explained below. Variations appear on some earlier maps, and additional features are represented on some special maps.

All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger streams, the lakes, and the sea by blue water lining or blue tint. Intermittent streams—those whose beds are dry for a large part of the year—are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown, which on some maps are supplemented by shading showing the effect of light thrown from the northwest across the area represented, for the purpose of giving the appearance of relief and thus aiding in the interpretation of the contour lines. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in practice only the contour at certain regular intervals of altitude are shown. The line of the seacoast itself is a contour, the datum or zero of altitude being mean sea level. The 20-foot contour would be the shore line if the sea should rise 20 feet. Contour lines show the shape of the hills, mountains, and valleys, as well as their altitude. Successive contour lines that are far apart on the map indicate a gentle slope; lines that are close together indicate a steep slope; and lines that run together indicate a cliff.

The manner in which contour lines express altitude, form, and grade is shown in the figure below.



ing spurs separated by ravines. The spurs are truncated at their lower ends by a sea cliff. The hill at the left terminates abruptly at the valley in a steep scarp, from which it slopes gradually away and forms an inclined table-land that is traversed by a few shallow gullies. On the map each of these features is represented, directly beneath its position in the sketch, by contour lines.

The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval differs according to the topography of the area mapped: in a flat country it may be as small as 1 foot; in a mountainous region it may be as great as 250 feet. Certain contour lines, every fourth or fifth one, are made heavier than the others and are accompanied by figures showing altitude. The heights of many points—such as road corners, summits, surfaces of lakes, and bench marks—are also given on the map in figures, which show altitudes to the nearest foot only. More exact altitudes—those of bench marks—as well as the geodetic coordinates of triangulation stations, are published in bulletins issued by the Geological Survey.

Lettering and the works of man are shown in black. Boundaries, such as those of a State, county, city, land grant, township, or reservation, are shown by continuous or broken lines of different kinds and weights. Good motor or public road are shown by fine double lines, poor motor or private roads by dashed double lines, trails by dashed single lines.

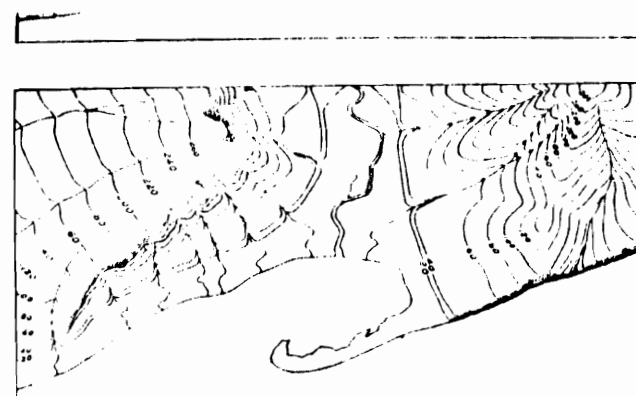
Each quadrangle is designated by the name of a city, town, or prominent natural feature within it, and on the margin of the map are printed the names of adjoining quadrangles of which maps have been published. Over 3,500 quadrangles in the United States have been surveyed, and maps of them similar to the one on the other side of this sheet have been published.

The topographic map is the base on which the geology and mineral resources of a quadrangle are represented, and the maps showing these features are bound together with a descriptive text to form a folio of the Geologic Atlas of the United States. More than 220 folios have been published.

Index map of each State and of Alaska and Hawaii showing the areas covered by topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the atlas of topographic maps may be obtained for 10 cents each; some special maps are sold at different prices, and the price of the atlas of geologic folios is \$1.00 per folio.

A topographic survey of Alaska has been in progress since 1898, and nearly 43 per cent of its area has now been mapped. About 10 per cent of the Territory has been covered by reconnaissance maps on a scale of $\frac{1}{62,500}$, or about 10 miles to an inch. Most of the remaining area surveyed in Alaska has been mapped on a scale of $\frac{1}{250,000}$, but about 4,000 square miles have been mapped on a scale of $\frac{1}{62,500}$ or larger.

The features shown on these maps may be arranged in three groups: (1) water, including seas, lake, rivers, canals, swamps, and other bodies of water; (2) relief, including mountain, hills, valleys, and other features of the land surface; (3) culture



States. More than 220 folios have been published.

Applications for maps or folios should be accompanied by cash, draft, or money order (not postage stamps) and should be addressed to

September, 1928.

CUM FURT
specimen black.



141-142

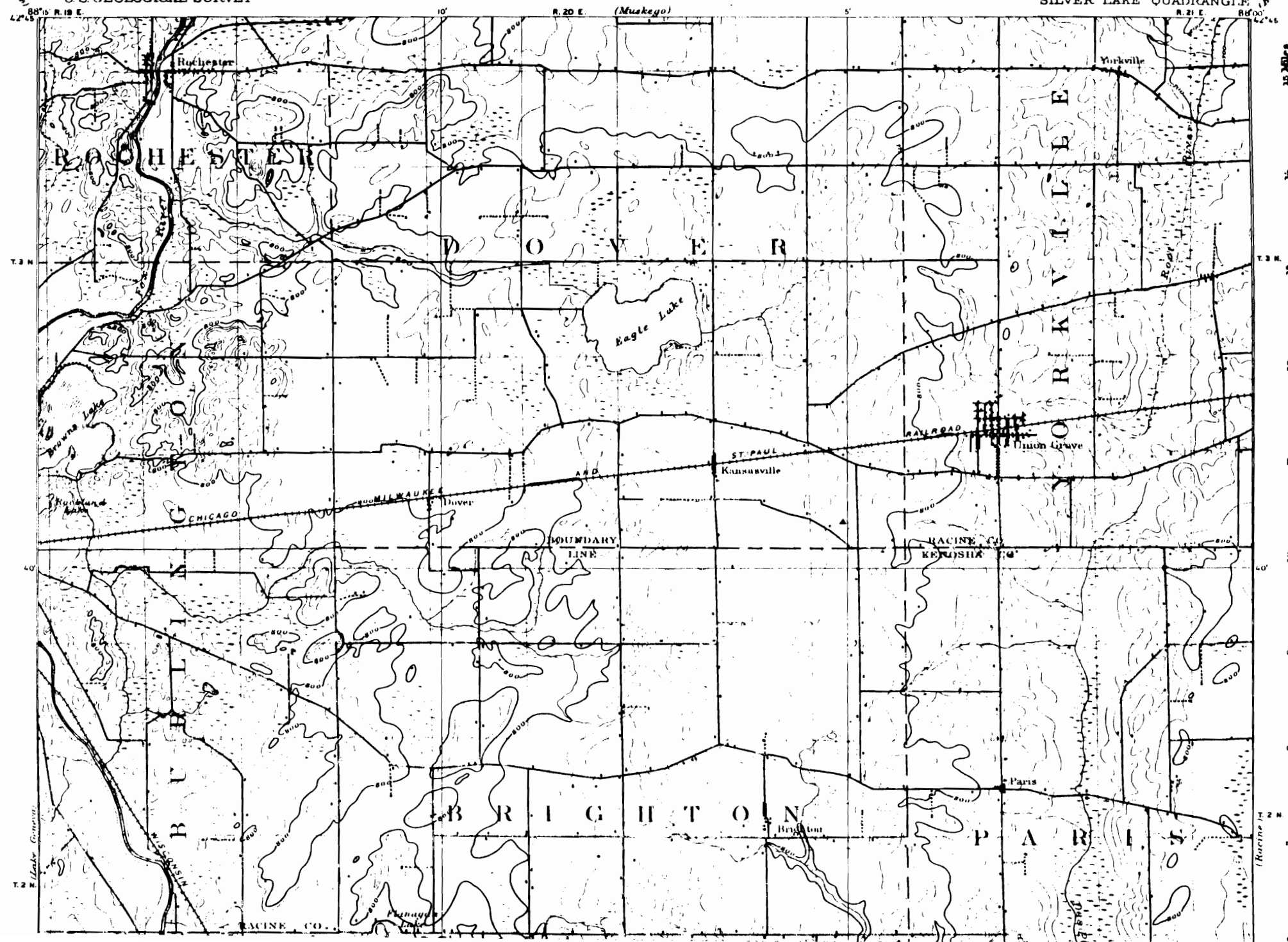
1920-1921. 1922-1923.

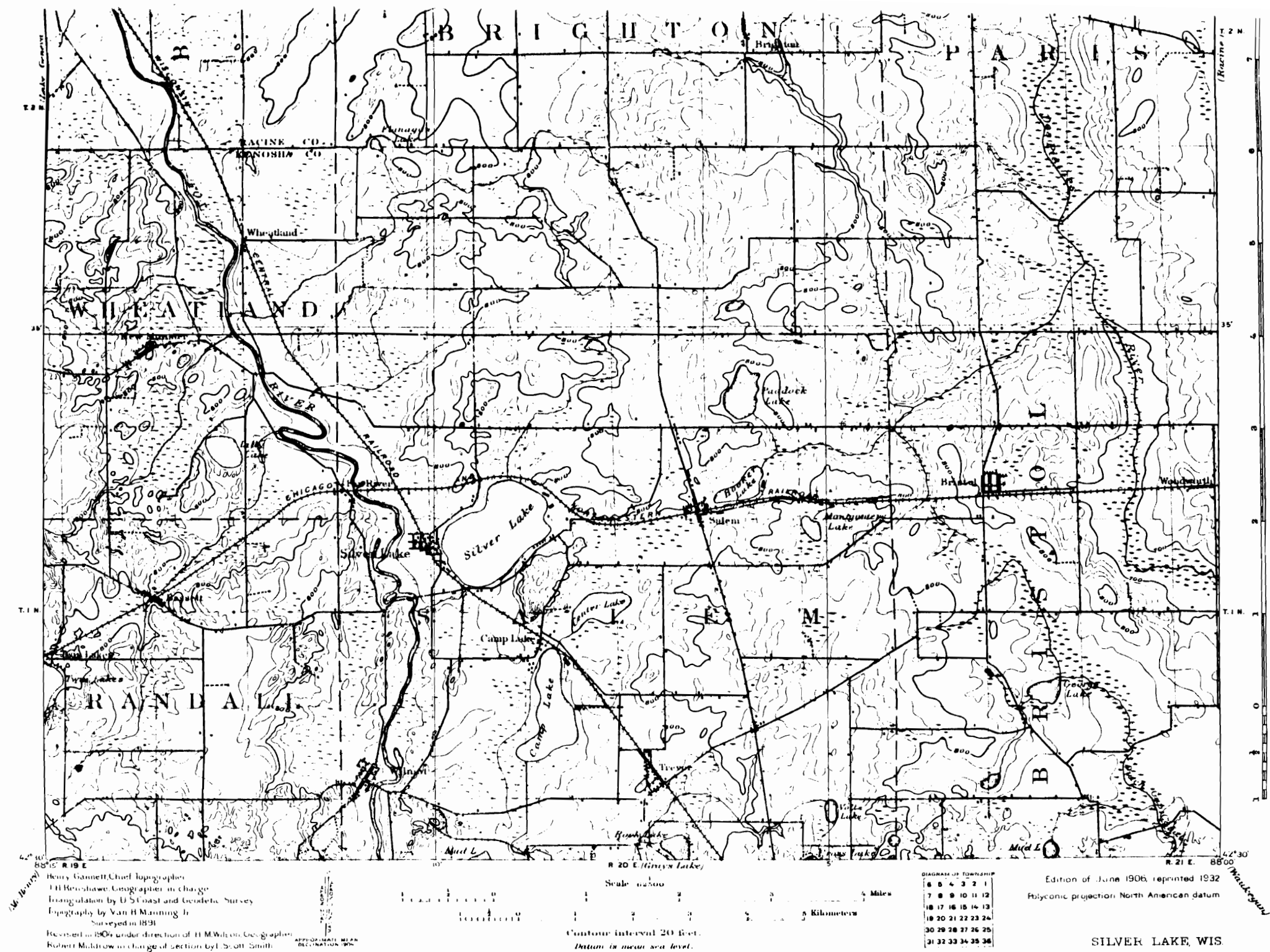
WATER

presented in tables

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

WISCONSIN
SILVER LAKE QUADRANGLE





THE TOPOGRAPHIC MAPS OF THE UNITED STATES

The United States Geological Survey is making a standard topographic atlas of the United States. This work has been in progress since 1882, and its results consist of published maps of more than 40 per cent of the country, exclusive of outlying possessions.

This topographic atlas is published in the form of maps or atlas sheets measuring about 16½ by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallel of latitudes and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for any quadrangle depending on its nature and its geologic, economic, development, and consequently, though the standard sheet, needs most nearly uniform, so they represent areas of different sizes. On the lower margin of each sheet the geodetic quadrangle showing distance in feet, miles, and meters, and also on the scale of the map is shown by a representative fraction expressing a fixed ratio between linear measurements on the map and corresponding distances on the ground. For example, the scale $\frac{1}{62,500}$ means that 1 unit on the map represents 1 linear foot on the ground, or 62,500 feet on the ground.

Quadrangles of different sizes on the maps are multiple of a standard size, $\frac{1}{62,500}$. Quadrangles in thickly settled or important agricultural regions are mapped on a scale of $\frac{1}{25,000}$ or $\frac{1}{31,250}$, or even larger, and other areas measuring 16 in. square are mapped on a scale of $\frac{1}{62,500}$. Quadrangles in less thickly settled or agricultural districts are mapped on a scale of $\frac{1}{125,000}$ or $\frac{1}{156,250}$, and cover areas measuring 32 in. square. Reconnaissance maps of large areas, such as the Mississippi Valley and regions, have been made on a scale of $\frac{1}{250,000}$ or $\frac{1}{500,000}$, and cover areas measuring 64 in. square or 128 in. square. Topographic maps are published in the form of single sheets or in bound volumes.

The topographic maps are published in the form of single sheets or in bound volumes. The single sheets are published in the form of single sheets or in bound volumes. The bound volumes are published in the form of bound volumes or in single sheets.

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The topographic maps are published in the form of single sheets or in bound volumes. The single sheets are published in the form of single sheets or in bound volumes.

All the water features are represented in color. The water features are represented in color. The water features are represented in color.

Relief is shown by contour lines. In brown, a line represents an imaginary line on the ground, everywhere any part of which is at the same altitude above the sea. A contour line could be drawn at any altitude, but in practice only the contour at certain regular intervals of feet are shown. The line of the contour is then accompanied by a series of numbers, the height of each being indicated by a figure. The contour lines of a single map would be drawn in a single color, but in practice they are drawn in different colors. Contour lines show the shape of the hills, mountains, and valleys, and thus their altitudes. Successive contour lines that are far apart on the map indicate gentle slopes; lines that are close together indicate a steep slope; and lines that run together indicate a cliff.

The manner in which contour lines express altitude, form, and grade is shown in the figure below.

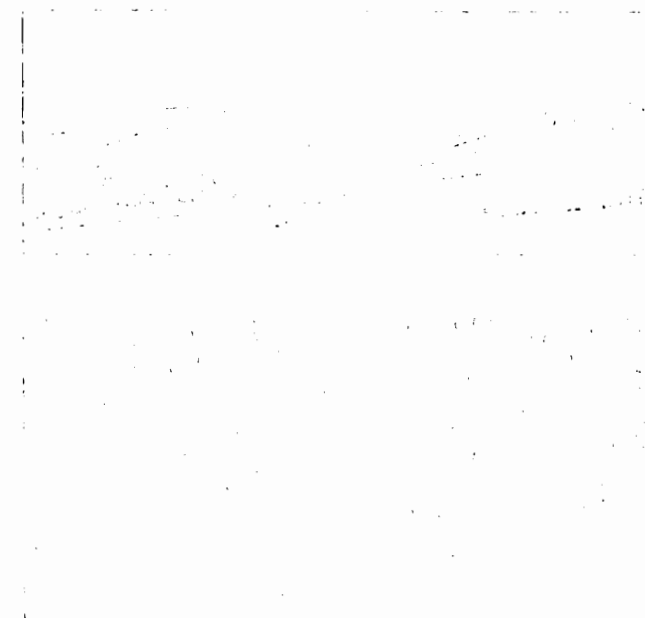


Fig. 1. Contour lines showing relief and grade.

gradually away and forms an inclined table-land that is traversed by a low shallow gully. On the map each of these features is represented, directly beneath its position in the sketch, by contour lines.

The contour interval, or the vertical distance in feet between one contour and the next, is noted at the bottom of each map. This interval varies according to the topography of the area mapped, and may be as small as 1 foot; in a certain case it may be as great as 200 feet. Certain contour lines, such as those with one, are made heavier than the others, and are accompanied by figures showing altitude. These are called *main contour lines*, such as road corners, summits, and faces of hills, and bench marks—are also given on the map in figures, which show altitudes to the nearest foot only. More exact altitudes of some of bench marks—as well as the geodetic coordinates of triangulation stations, are published in bulletins that are issued by the Geological Survey.

The lettering and works of man are shown in black. Boundaries, such as those of a State, county, city, land grant, township, or reservation, are shown by continuous or broken lines of different kinds and weights. Metalled roads are shown by double lines, one of which is accentuated. Other public roads are shown by line double lines, private and poor roads by dashed double lines, trails by dashed single lines.

Each quadrangle is designated by the name of the principal city, town, or natural feature within it, and on the margins of the map are printed the names of adjoining quadrangles of which maps have been published. Over 2,500 quadrangles in the United States have been surveyed, and maps of them shown to the public on the other side of our sheet have been published.

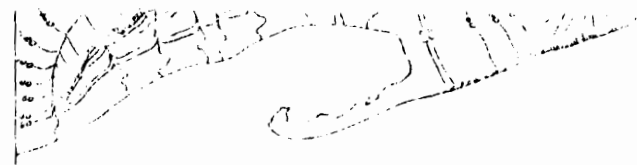
The topographic map is the base on which the geology and other features of a quadrangle are represented, and the geologic features are shown in a separate color and a description of the geologic features of the quadrangle of the United States.

The topographic maps are published in the form of single sheets or in bound volumes. The single sheets are published in the form of single sheets or in bound volumes. The bound volumes are published in the form of bound volumes or in single sheets.

most maps on a scale of $\frac{1}{250,000}$ inch. Most of the remaining area surveyed in Alaska has been mapped on a scale of $\frac{1}{250,000}$ but about 5,500 square miles has been mapped on a scale of $\frac{1}{625,000}$.

A large part of the Hawaiian Islands has been surveyed, and the resulting maps are published on a scale of $\frac{1}{625,000}$.

The features shown on these maps may be arranged in three groups—(1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land surface; (3) culture (works of man), such as towns, cities, roads, railroads, and boundaries. The conventional signs used to represent these features are shown and explained below. Variations appear on some earlier maps, and additional features are represented on some special maps.



The sketch represents a river valley that lies between two hills. In the foreground is the sea, with a bay that is partly inclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently sloping spurs separated by ravines. The spurs are truncated at their lower ends by a sea cliff. The hill at the left terminates abruptly at the valley in a steep scarp from which it slopes

geologic folio published by the United States Geological Survey may be obtained free. Copies of the topographic maps may be obtained for 10 cents each, or in lots of 50 or more, either of the same or of different quadrangles, for 6 cents each. The geologic folios are sold for 25 cents or more each, the price depending on the size of the folio. A circular describing the folios will be sent on request.

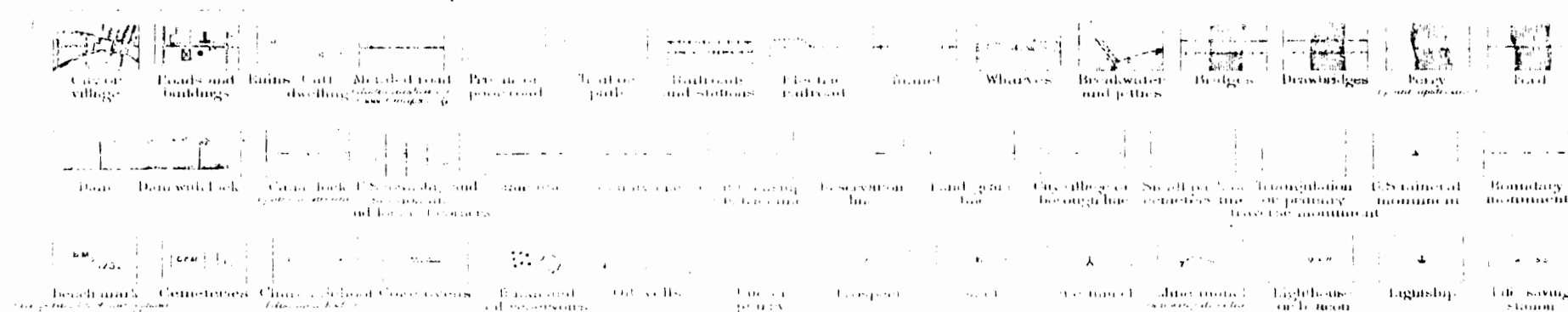
Applications for maps or folios should be accompanied by cash, draft, or money order (not postage stamps) and should be addressed to

THE DIRECTOR,
United States Geological Survey,
Washington, D. C.

November, 1919.

CONVENTIONAL SIGNS

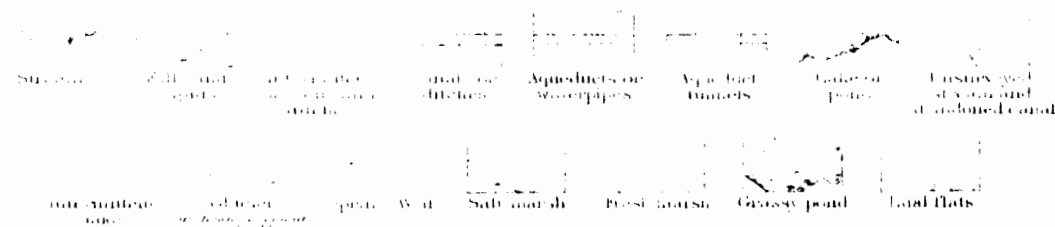
CULTURE (printed in black)



RELIEF (printed in brown)



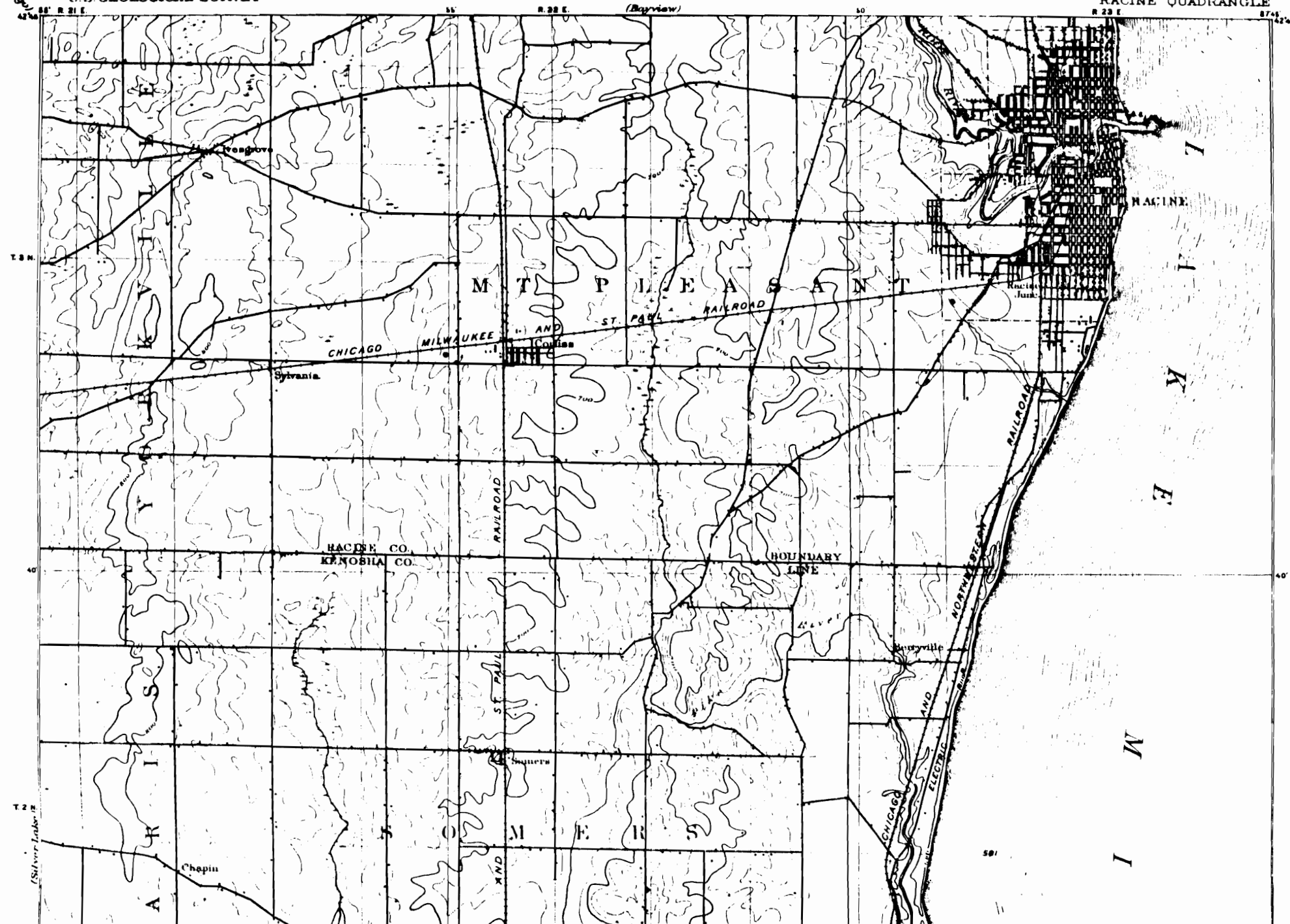
WATER (printed in blue)

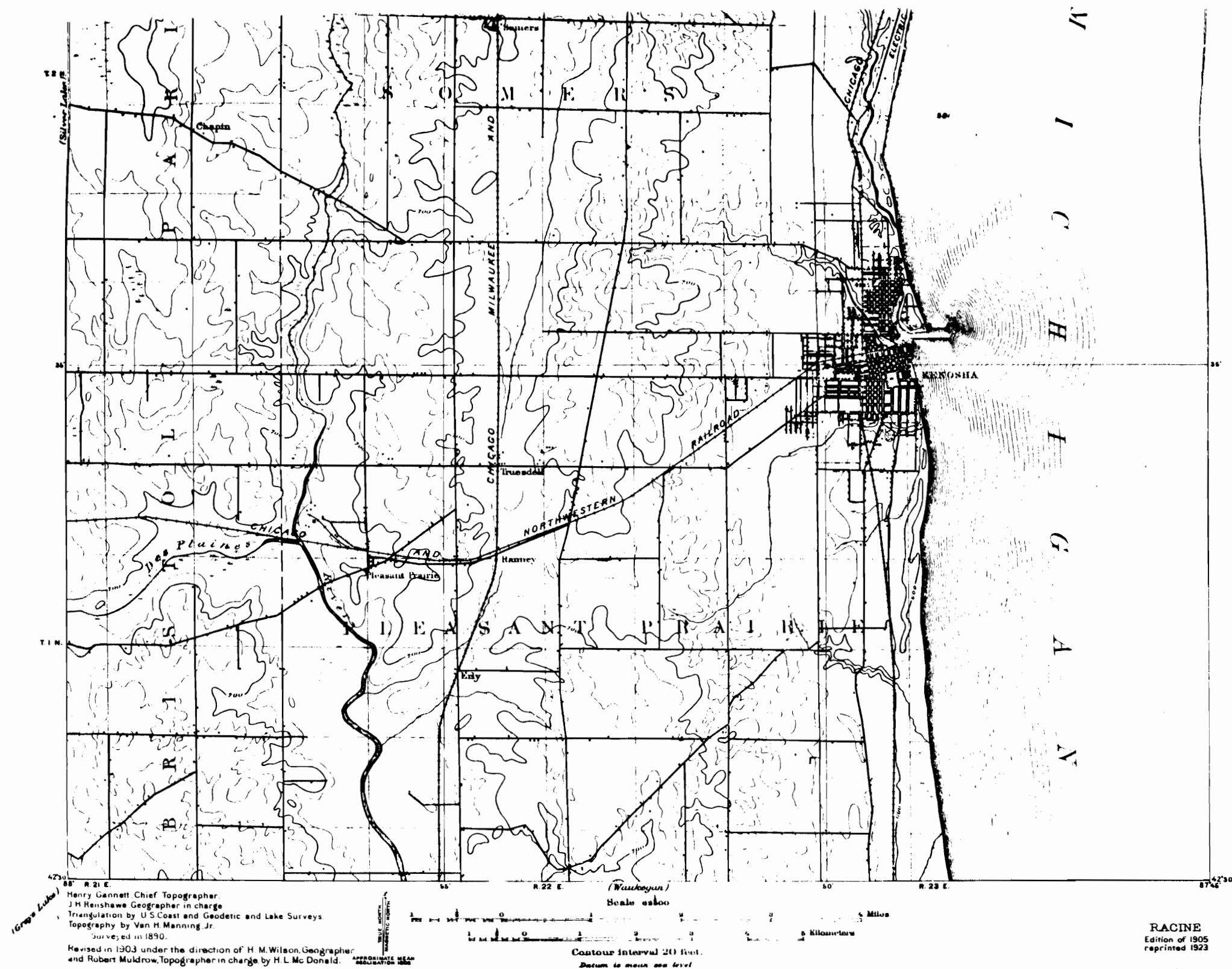


WORDS (when shown, printed in green)

58° N. 21 E.

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THE TOPOGRAPHIC MAPS OF THE UNITED STATES

The United States Geological Survey is making a standard topographic atlas of the United States. This work has been in progress since 1882, and its results consist of published maps of more than 40 per cent of the country, exclusive of outlying possessions.

This topographic atlas is published in the form of maps on sheets measuring about 16½ by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for each map being that which is best adapted to general use in the development of the country, and consequently, though the standard maps are of nearly uniform size, they represent areas of different sizes. On the lower margin of each map are printed graphic scales showing distances in feet, meters, and miles. In addition, the scale of the map is shown by a fraction expressing a fixed ratio between linear measurements on the map and corresponding distances on the ground. For example, the scale $\frac{1}{62,500}$ means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 62,500 similar units on the earth's surface.

Although some areas are surveyed and some maps are compiled and published on special scales for special purposes, the standard topographic surveys for the United States proper and the resulting maps have for many years been divided into three types, differentiated as follows:

1. Surveys of areas in which there are problems of great public importance—relating, for example, to mineral development, irrigation, or reclamation of swamp areas—are made with sufficient accuracy to be used in the publication of maps on a scale of $\frac{1}{62,500}$ (1 inch = one-half mile), with a contour interval of 1, 5, or 10 feet.
2. Surveys of areas in which there are problems of average public importance, such as most of the basin of the Mississippi and its tributaries, are made with sufficient accuracy to be used in the publication of maps on a scale of $\frac{1}{125,000}$ (1 inch = nearly 1 mile), with a contour interval of 10 to 25 feet.
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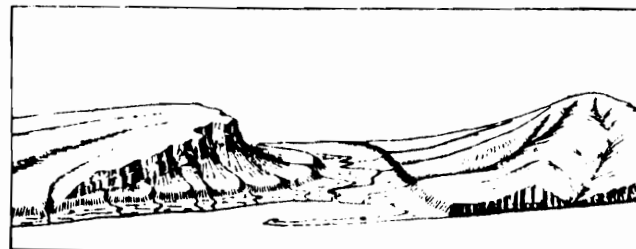
A topographic survey of Alaska has been in progress since 1898, and nearly 37 per cent of its area has now been mapped. About 10 per cent of the Territory has been covered by reconnaissance maps on a scale of $\frac{1}{250,000}$ or about 10 miles to an inch. Most of the remaining area surveyed in Alaska has

boundaries. The conventional signs used to represent these features are shown and explained below. Variations appear on some earlier maps, and additional features are represented on some special maps.

All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger streams, the lakes, and the sea by blue water lining or blue tint. Intermittent streams—those whose beds are dry for a large part of the year—are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown, which on some maps are supplemented by shading showing the effect of light thrown from the northwest across the area represented, for the purpose of giving the appearance of relief and thus aiding in the interpretation of the contour lines. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in practice only the contours at certain regular intervals of altitude are shown. The line of the seacoast itself is a contour, the datum or zero of altitude being mean sea level. The 20-foot contour would be the shore line if the sea should rise 20 feet. Contour lines show the shape of the hills, mountains, and valleys, as well as their altitude. Successive contour lines that are far apart on the map indicate a gentle slope; lines that are close together indicate a steep slope; and lines that run together indicate a cliff.

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The topographic map is the base on which the geology and mineral resources of a quadrangle are represented, and the maps showing these features are bound together with a descriptive text to form a folio of the Geologic Atlas of the United States. More than 200 folios have been published.

Index maps of each State and of Alaska and Hawaii showing the areas covered by topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the standard topographic maps may be obtained for 10 cents each; some special maps are sold at different prices. A discount of 40 per cent is allowed on an order for maps amounting to \$5 or more at the retail price. The geologic folios are sold for 25 cents or more each, the price depending on the size of the folio. A statement of prices of the folios will

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A topographic survey of Alaska has been in progress since 1898, and nearly 37 per cent of its area has now been mapped. About 10 per cent of the Territory has been covered by reconnaissance maps on a scale of $\frac{1}{62,500}$, or about 10 miles to an inch. Most of the remaining area surveyed in Alaska has been mapped on a scale of $\frac{1}{62,500}$, but about 4,000 square miles has been mapped on a scale of $\frac{1}{62,500}$.

About half of the Hawaiian Islands has been surveyed, and the resulting maps are published on a scale of $\frac{1}{62,500}$.

The features shown on these maps may be arranged in three groups—(1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land surface; (3) culture (works of man), such as towns, cities, roads, railroads, and



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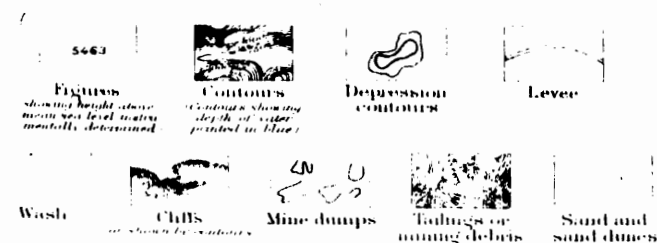
January, 1924.

CONVENTIONAL SIGNS

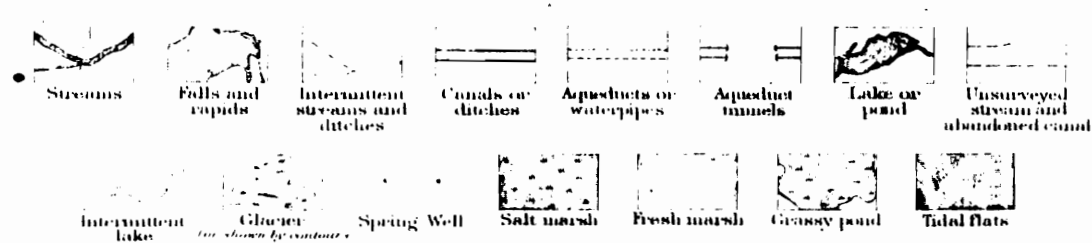
CULTURE (printed in black)



RELIEF (printed in brown)



WATER (printed in blue)

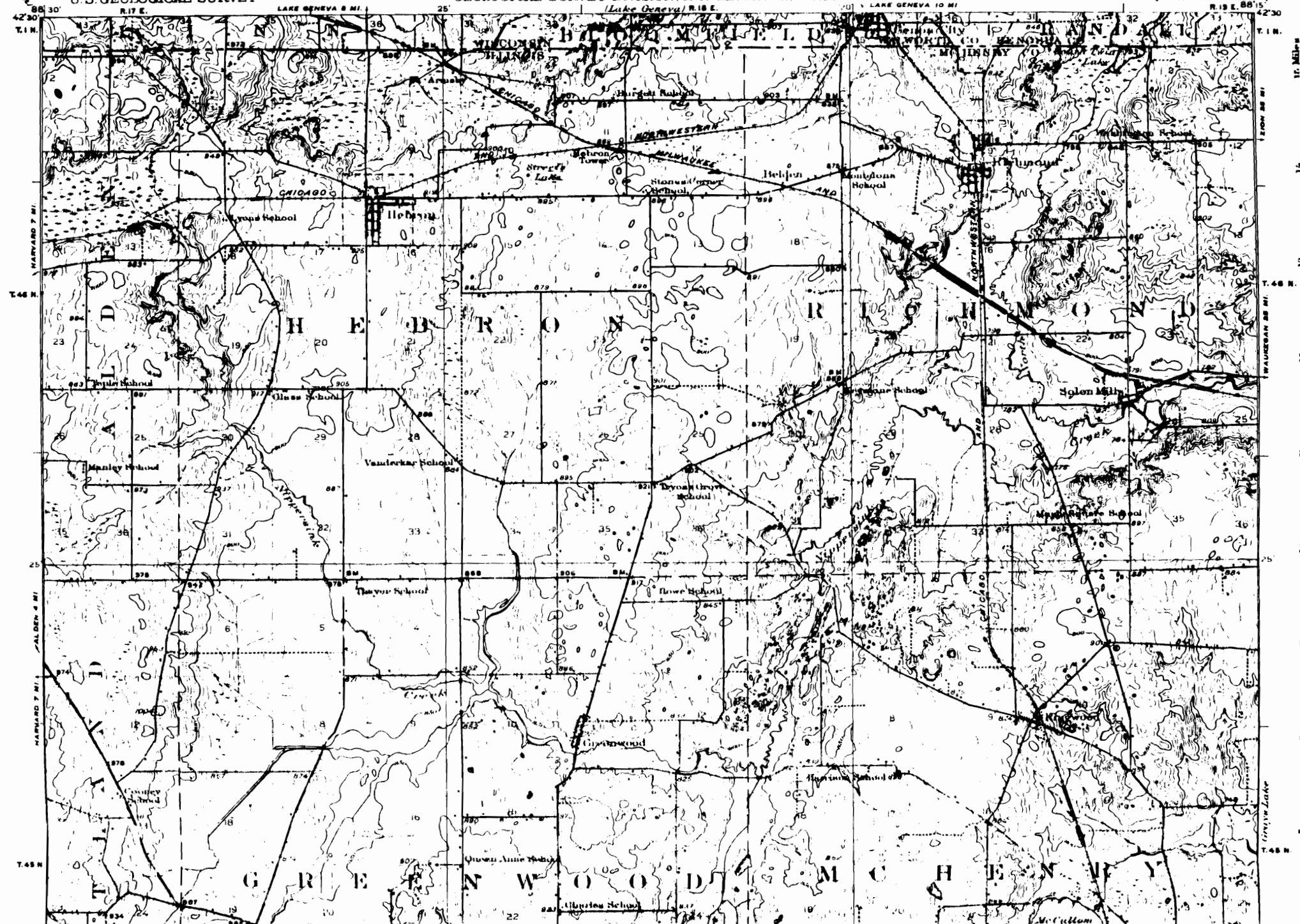


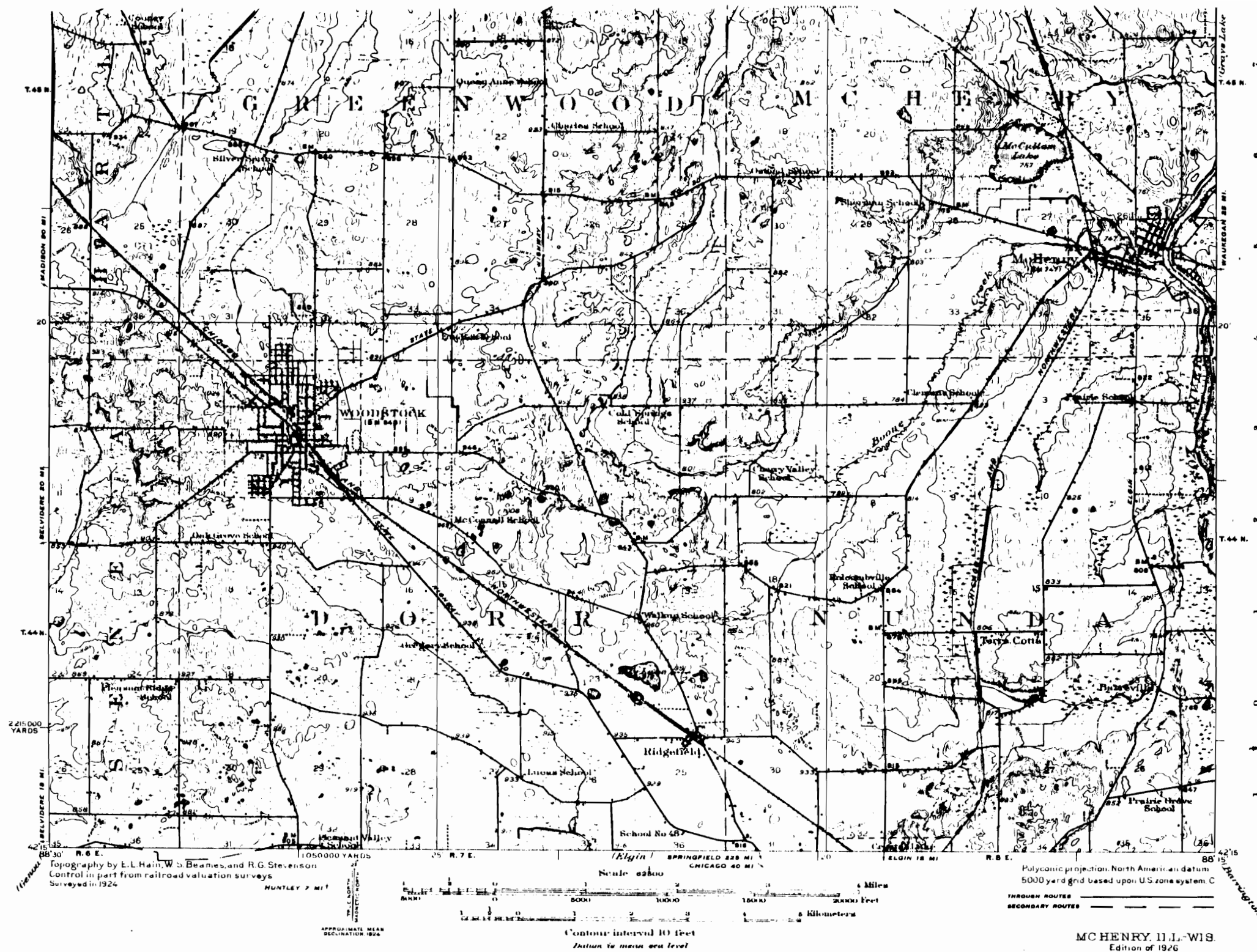
WOODS (when shown, printed in green)

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

STATE OF ILLINOIS
DEPARTMENT OF REGISTRATION AND EDUCATION
A. M. SHELTON, DIRECTOR
GEOLOGICAL SURVEY DIVISION, M. M. LEIGHTON, CHIEF

ILLINOIS - WISCONSIN
MCHENRY QUADRANGLE





THE TOPOGRAPHIC MAPS OF THE UNITED STATES

The United States Geological Survey is making a standard topographic atlas of the United States. This work has been in progress since 1882, and its results consist of published maps of more than 42 per cent of the country, exclusive of outlying possessions.

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2. Surveys of areas in which there are problems of average public importance, such as most of the basin of the Mississippi and its tributaries, are made with sufficient accuracy to be used in the publication of maps on a scale of $\frac{1}{125,000}$ (1 inch = nearly 1 mile), with a contour interval of 10 to 25 feet.

3. Surveys of areas in which the problems are of minor public importance, such as much of the mountain or desert regions of Arizona and New Mexico, are made with sufficient accuracy to be used in the publication of maps on a scale of $\frac{1}{250,000}$ (1 inch = nearly 2 miles), with a contour interval of 25 to 100 feet.

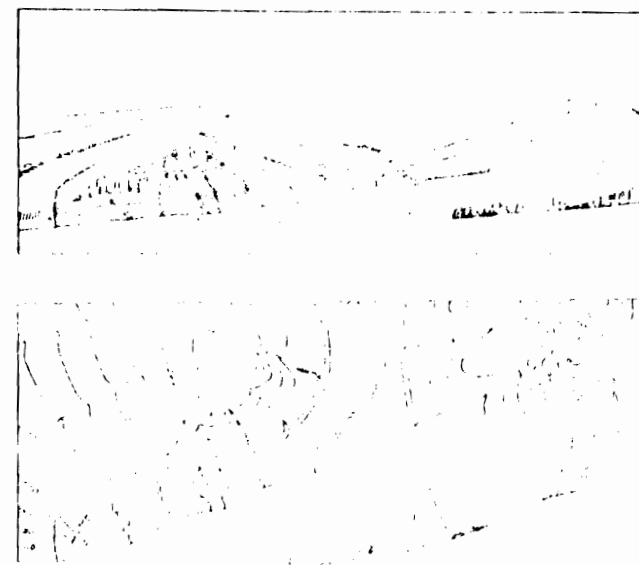
A topographic survey of Alaska has been in progress since 1897, and nearly 45 per cent of its area has now been mapped. About 10 per cent of the Territory has been covered by reconnaissance topographic maps of a scale of about 10 miles to an inch. About the remaining area surveyed in Alaska has been mapped on a scale of $\frac{1}{250,000}$, but about 1,000 square miles

(works of man), such as towns, cities, roads, railroads, and boundaries. The symbols used to represent these features are shown and explained below. Variations appear on some earlier maps, and additional features are represented on some special maps.

All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger streams, the lakes, and the sea by blue water lining or blue tint. Intermittent streams—those whose beds are dry for a large part of the year—are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown, which on some maps are supplemented by shading showing the effect of light thrown from the northwest across the area represented, for the purpose of giving the appearance of relief and thus aiding in the interpretation of the contour lines. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in practice only the contours at certain regular intervals of altitude are shown. The line of the seacoast itself is a contour, the datum or zero of altitude being mean sea level. The 20-foot contour would be the shore line if the sea should rise 20 feet. Contour lines show the shape of the hills, mountains, and valleys, as well as their altitude. Successive contour lines that are far apart on the map indicate a gentle slope; lines that are close together indicate a steep slope; and lines that run together indicate a cliff.

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Each quadrangle is designated by the name of a city, town, or prominent natural feature within it, and on the margin of the map are printed the names of adjoining quadrangles of which maps have been published. Over 3,300 quadrangles in the United States have been surveyed, and maps of those similar to the one on the other side of this sheet have been published.

The topographic map is the base on which the symbols of mineral resources of a quadrangle are represented, and the maps showing these features are bound together with a descriptive text to form a folio of the Geologic Atlas of the United States. More than 220 folios have been published.

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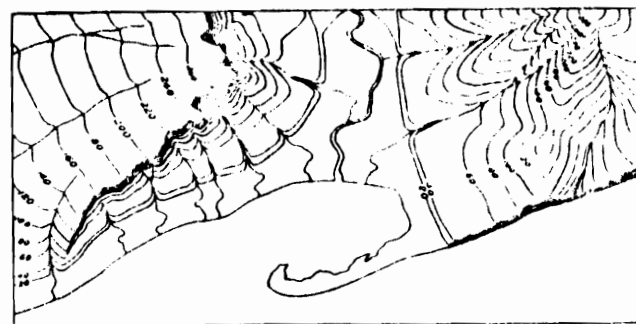
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accuracy to be used in the publication of maps on a scale of $\frac{1}{62,500}$ (1 inch nearly 2 miles), with a contour interval of 25 to 100 feet.

A topographic survey of Alaska has been in progress since 1898, and nearly 43 per cent of its area has now been mapped. About 10 per cent of the Territory has been covered by reconnaissance maps on a scale of $\frac{1}{62,500}$, or about 10 miles to an inch. Most of the remaining area surveyed in Alaska has been mapped on a scale of $\frac{1}{62,500}$, but about 4,000 square miles has been mapped on a scale of $\frac{1}{62,500}$ or larger.

The Hawaiian Islands, with the exception of the small islands at the western end of the group, have been surveyed, and the resulting maps are published on a scale of $\frac{1}{62,500}$.

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The sketch represents a river valley that lies between two hills. In the foreground is the sea, with a bay that is partly inclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently sloping

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THE DIRECTOR,
United States Geological Survey,
Washington, D. C.

September, 1928.

STANDARD SYMBOLS

CULTURE (printed in black)



RELIEF (printed in brown)



WATER (printed in blue)

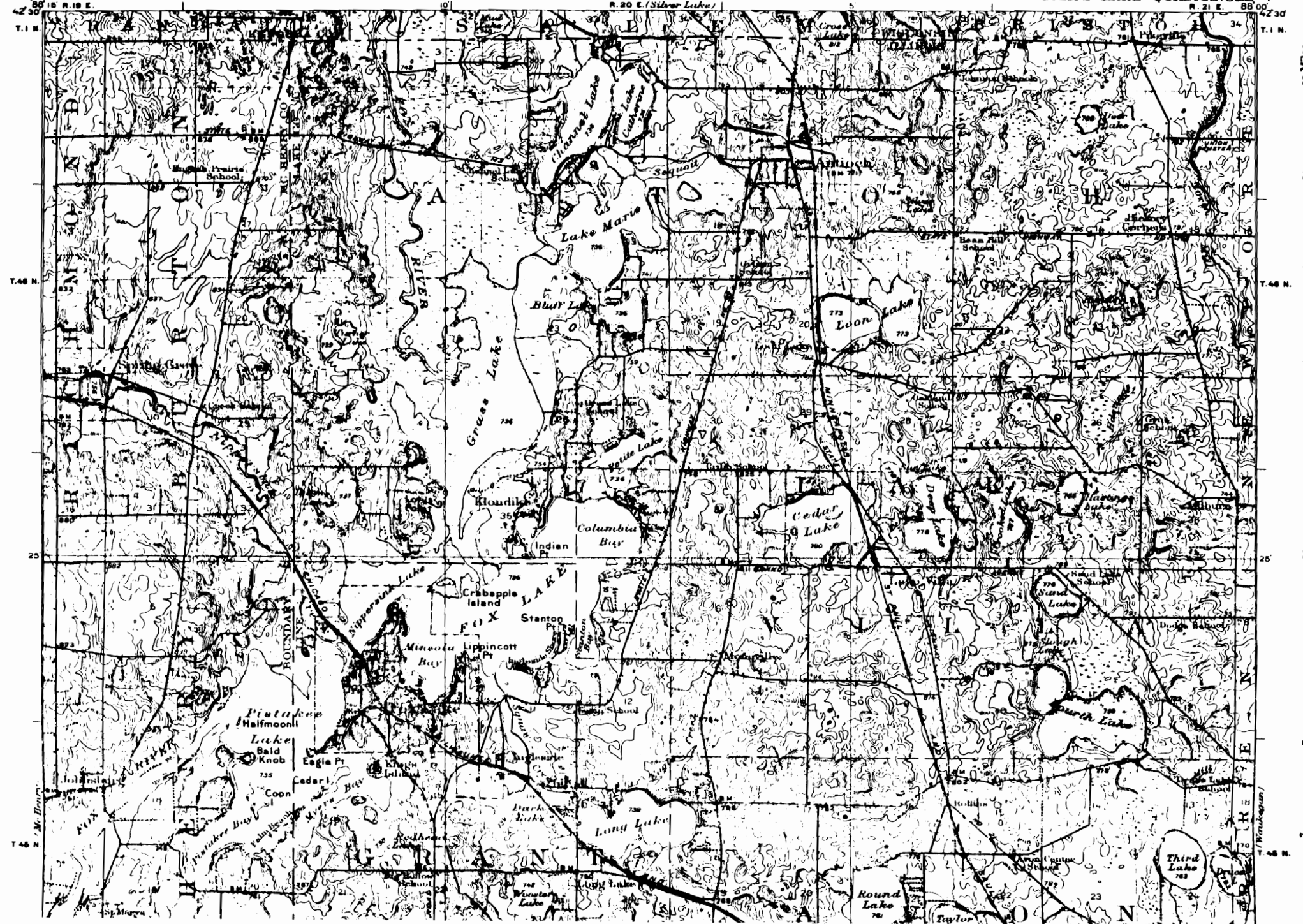
NOTE:
Contours shown in brown.

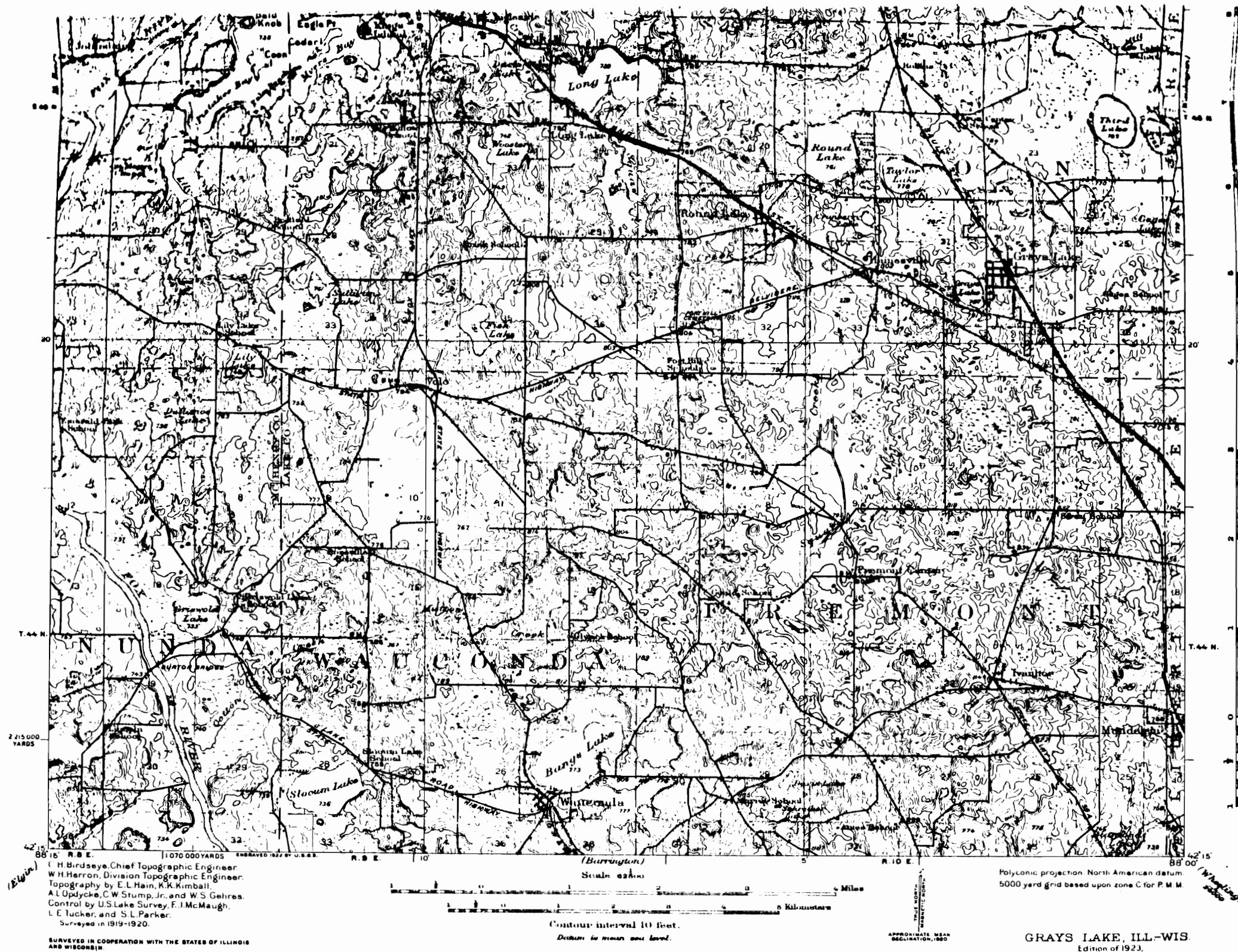
DEPARTMENT OF THE INTERIOR
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STATE OF ILLINOIS
DEPARTMENT OF REGISTRATION AND EDUCATION
M.F. WALSH, DIRECTOR
GEOLOGICAL SURVEY DIVISION, M.M. LEIGHTON, CHIEF, URBANA, ILLINOIS

STATE OF WISCONSIN
REPRESENTED BY THE
STATE GEOLOGIST

ILLINOIS-WISCONSIN
GRAYS LAKE QUADRANGLE (Kasson)





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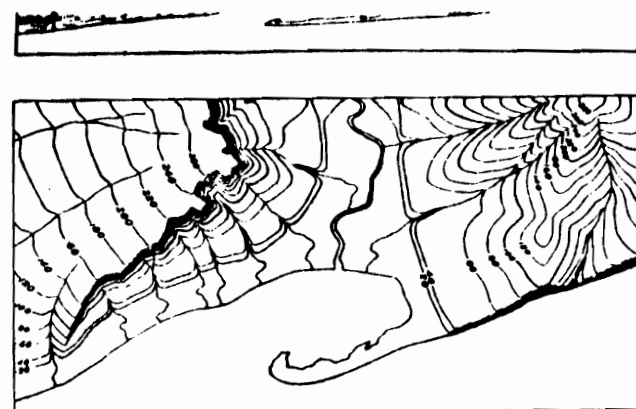
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The Hawaiian Islands, with the exception of the small islands at the western end of the group, have been surveyed, and the resulting maps are published on a scale of $\frac{1}{62,500}$.

The features shown on these maps may be arranged in three groups—(1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land surface; (3) culture



The sketch represents a river valley that lies between two hills. In the foreground is the sea, with a bay that is partly inclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently sloping

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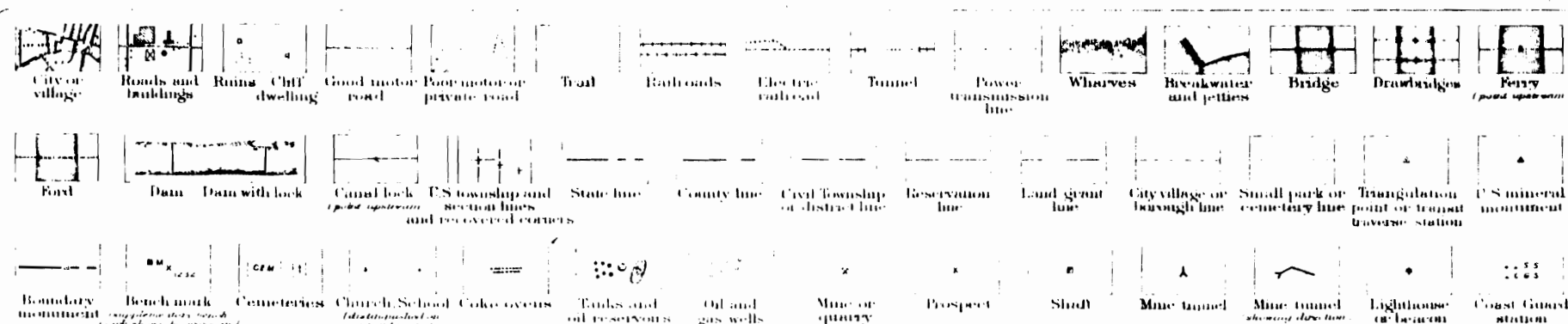
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THE DIRECTOR,
United States Geological Survey,
Washington, D. C.

September, 1928.

STANDARD SYMBOLS

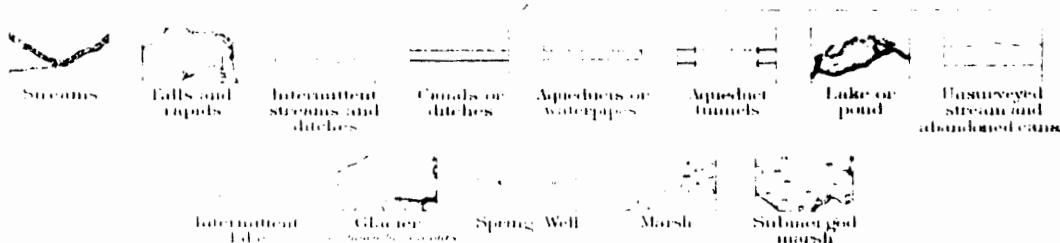
CULTURE (printed in black)



RELIEF (printed in brown)



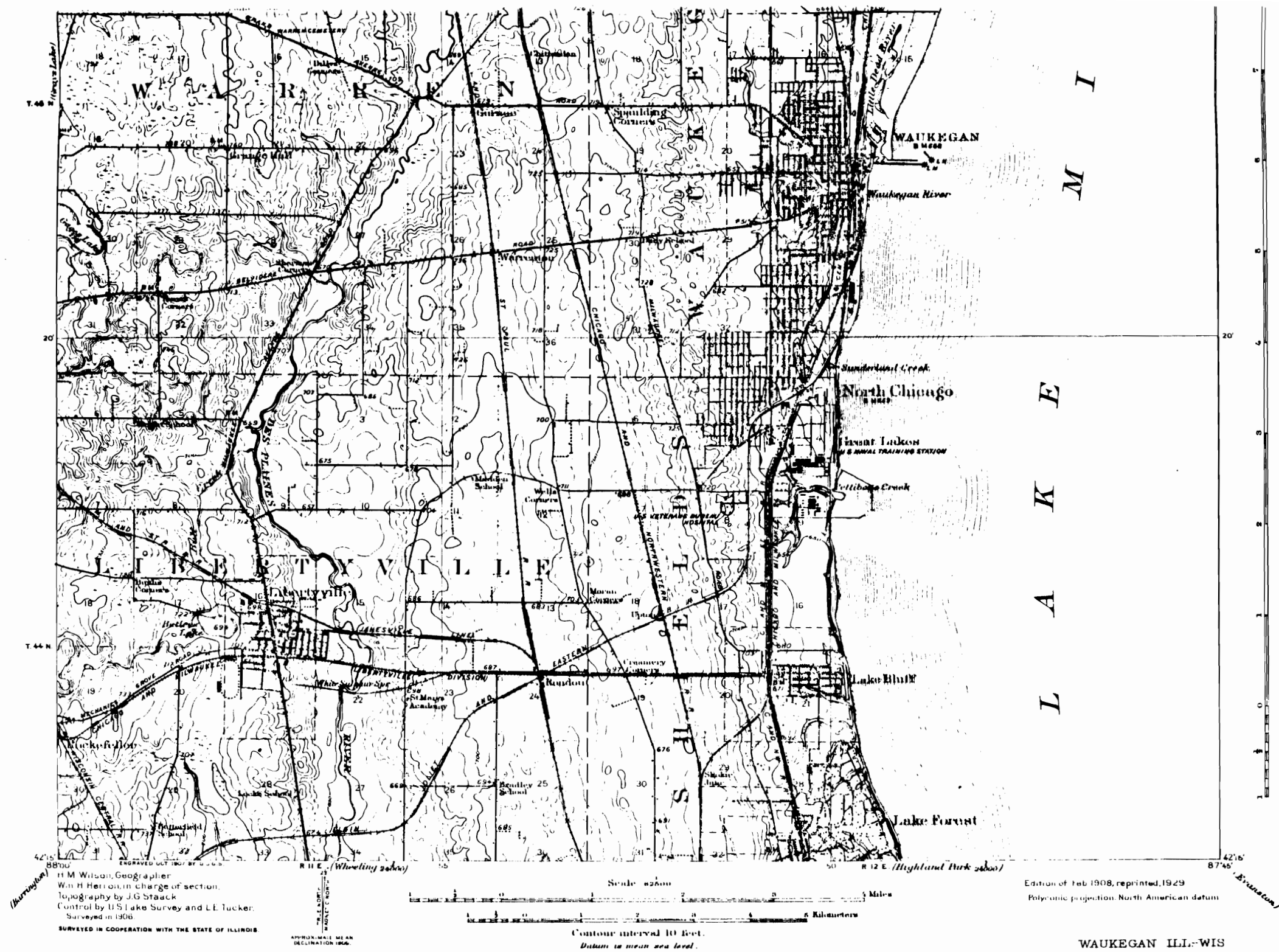
WATER (printed in blue)



WOODS (when shown, printed in green)

STATE OF ILLINOIS
REPRESENTED BY THE
DEPARTMENT OF REGISTRATION AND EDUCATION
GEOLOGICAL SURVEY DIVISION.

A detailed topographic map of Zion City, Illinois, and its surrounding region. The map features a grid system with coordinates (e.g., 42° 30' N, 88° 00' W) and a scale bar. Key locations include Zion City, Illinois, and the Illinois River. The map shows various landmarks, including the Zion City Cemetery, the Zion City School, and the Zion City Jail. The terrain is depicted with contour lines, and the river is shown with a winding path. The map is oriented with North at the top.



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Although some areas are surveyed and some maps are compiled and published on special scales for special purposes, the standard topographic surveys for the United States proper and the resulting maps have for many years been divided into three types, differentiated as follows:

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2. Surveys of areas in which there are problems of average public importance, such as most of the basin of the Mississippi and its tributaries, are made with sufficient accuracy to be used in the publication of maps on a scale of $\frac{1}{125,000}$ (1 inch = nearly 1 mile), with a contour interval of 10 to 25 feet.

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A topographic survey of Alaska has been in progress since 1898, and nearly 43 per cent of its area has now been mapped. About 10 per cent of the Territory has been covered by reconnaissance maps on a scale of 1:500,000, or about 10 miles to an inch. Most of the remaining area surveyed in Alaska has been mapped on a scale of 1:250,000, but about 4,000 square miles have been mapped on a scale of 1:125,000 or larger.

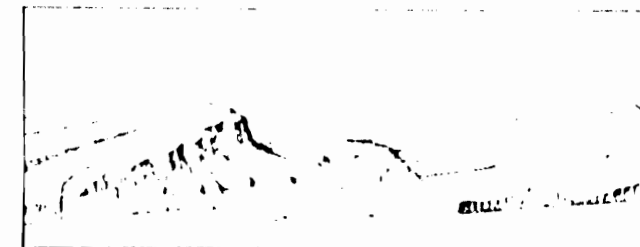
The Hawaiian Islands, with the exception of the main islands of the group, are being surveyed by the United States Geological Survey.

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All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger streams, the lakes, and the sea by blue water lining or blue tint. Intermittent streams—those whose beds are dry for a large part of the year—are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown, which on some maps are supplemented by shading showing the effect of light thrown from the northwest across the area represented, for the purpose of giving the appearance of relief and thus aiding in the interpretation of the contour lines. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in practice only the contours at certain regular intervals of altitude are shown. The line of the seacoast itself is a contour, the datum or zero of altitude being mean sea level. The 20-foot contour would be the shore line if the sea should rise 20 feet. Contour lines show the shape of the hills, mountains, and valleys, as well as their altitude. Successive contour lines that are far apart on the map indicate a gentle slope; lines that are close together indicate a steep slope; and lines that run together indicate a cliff.

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The feature shown on the maps may be arranged in three groups: (1) water, including ocean, lake, river, canal, swamps, and other bodies of water; (2) relief, including mountain, hills, valley, and other feature of the land surface; (3) culture

[illegible]

THE DIRECTOR,
United States Geological Survey,
Washington, D. C.

STANDARD SYMBOLS

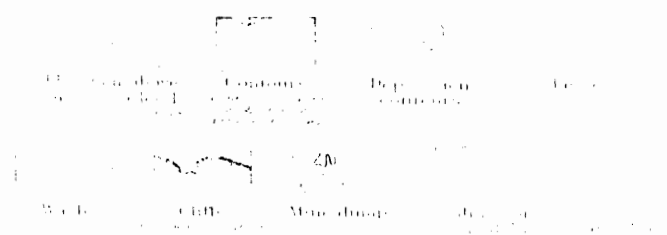
CULTURE

Accepted for publication 10 October 2006



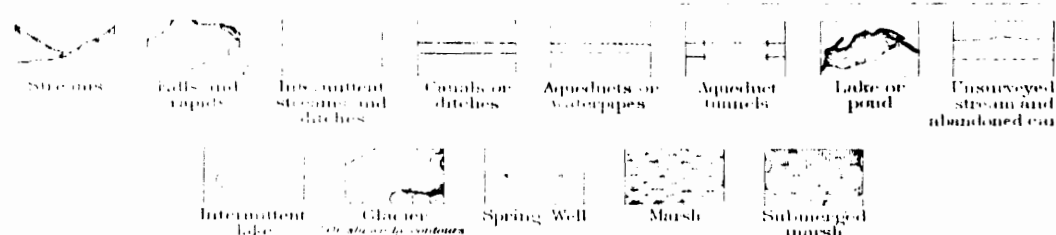
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J. L. S.



WATER

(printed in blue)



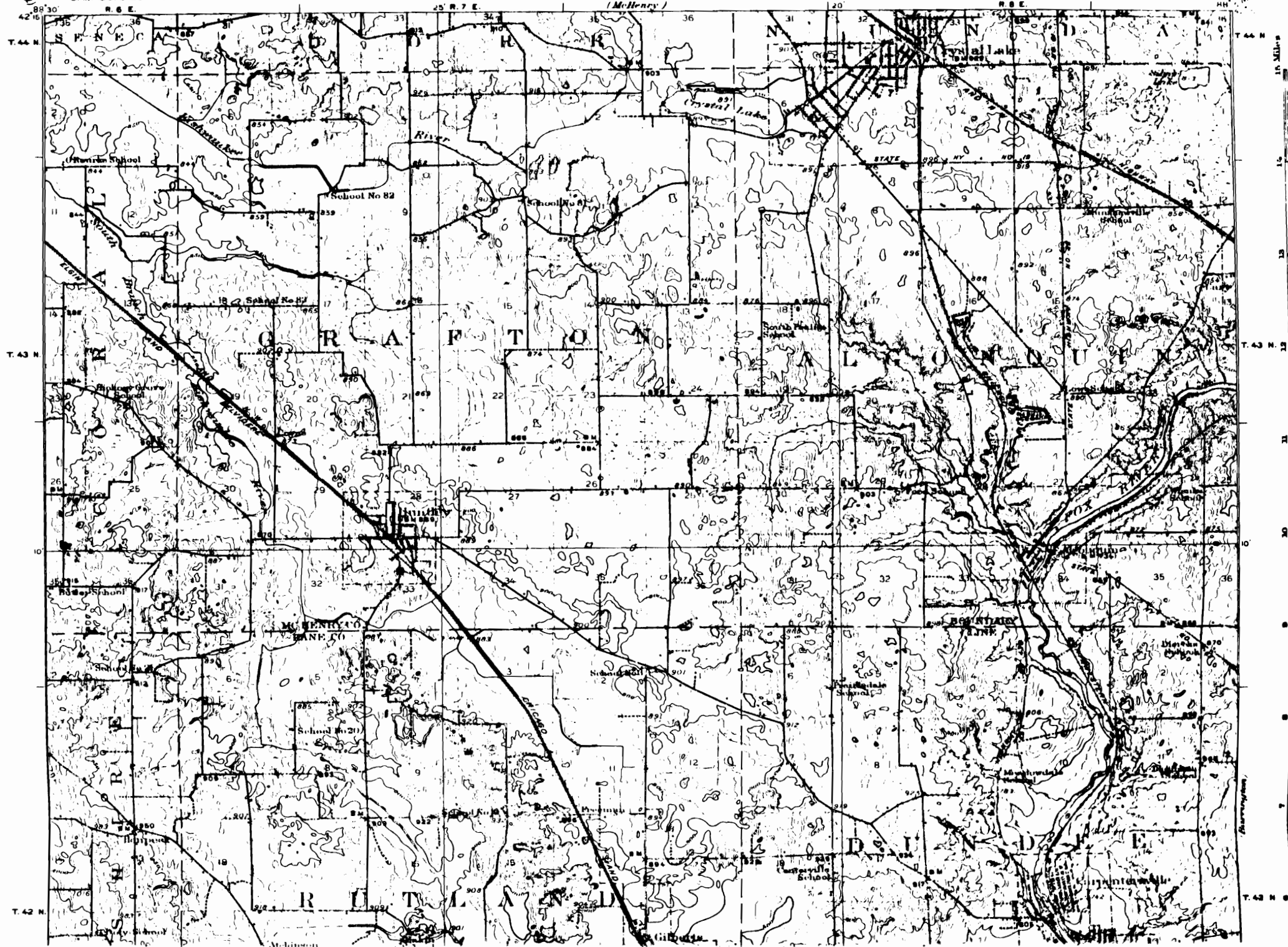
WOODS

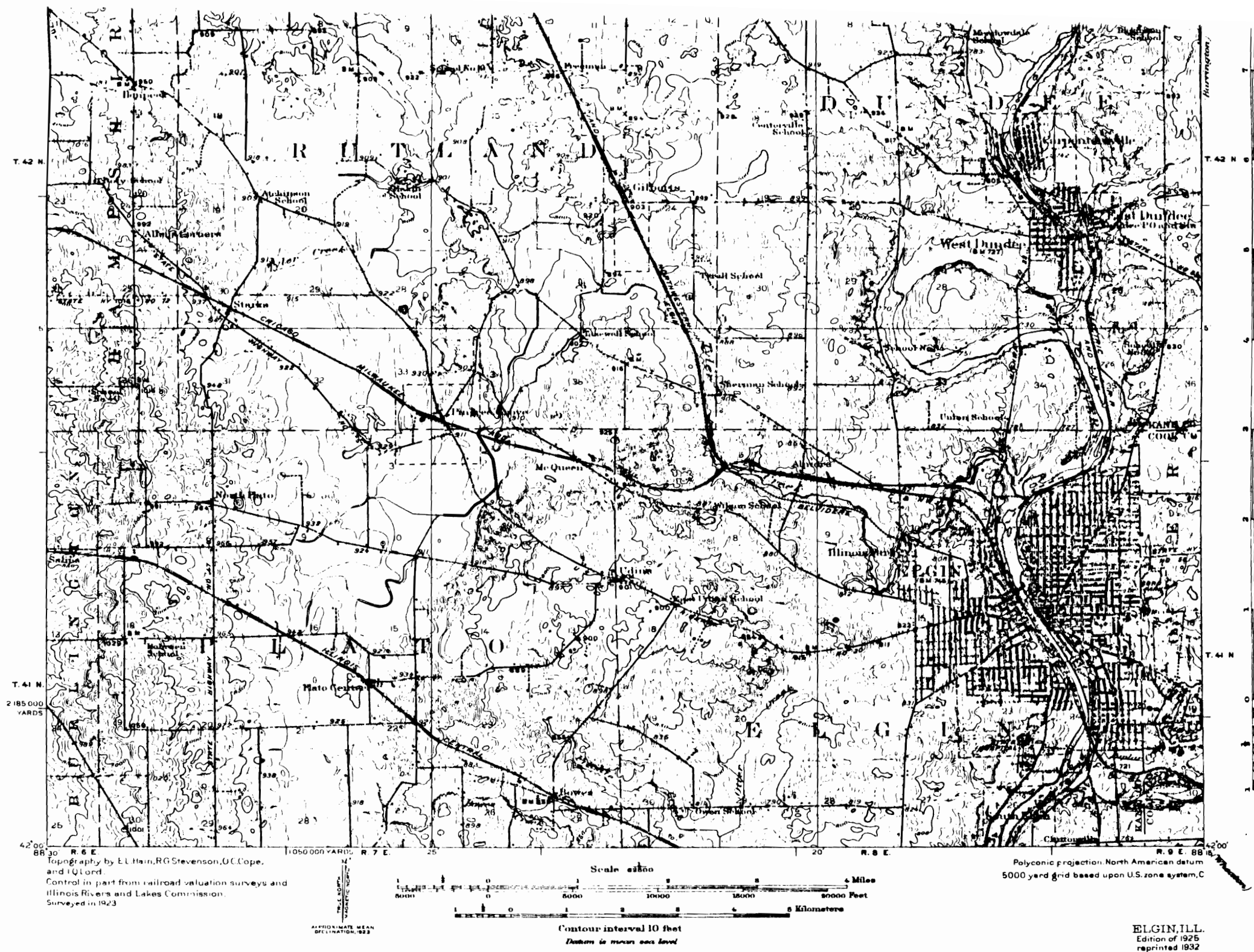
(when shown, printed in green)

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

DEPARTMENT OF RECREATION AND EDUCATION
M.F. WALSH, DIRECTOR
GEOLOGICAL SURVEY DIVISION, M.M. LEIGHTON, CHIEF, URBANA, ILLINOIS
(McHenry)

ILLINOIS
ELGIN QUADRANGLE





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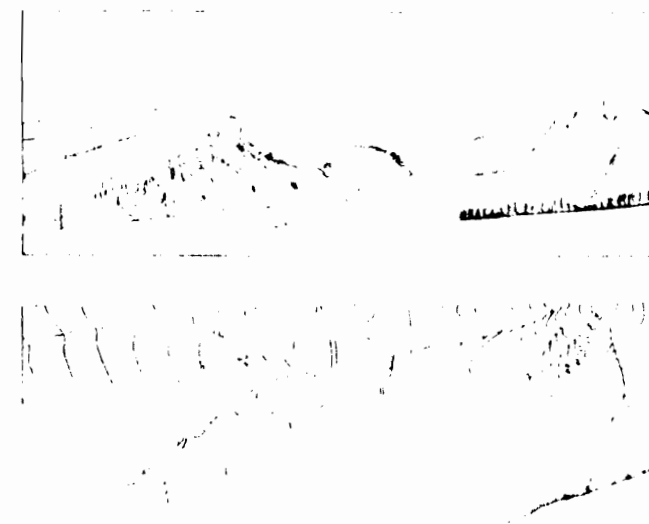
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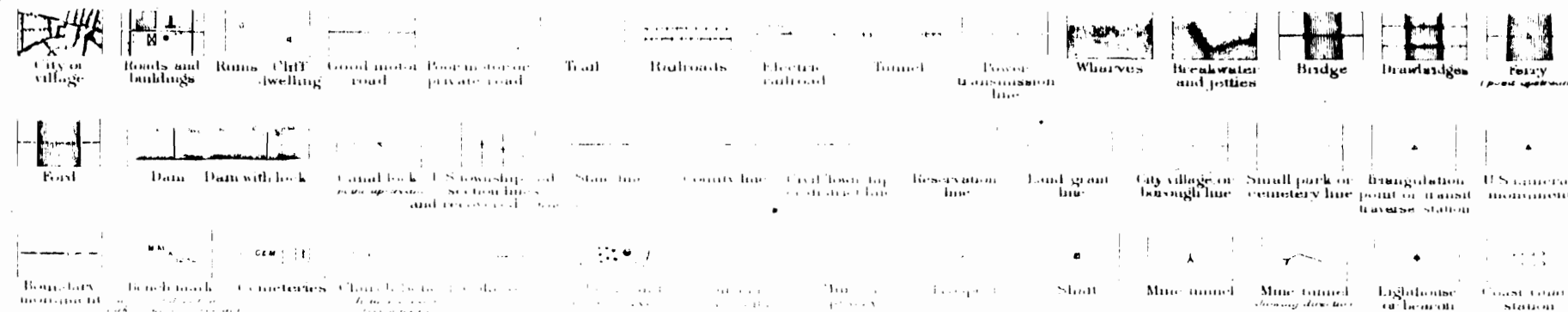
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RELIEF (printed in black)



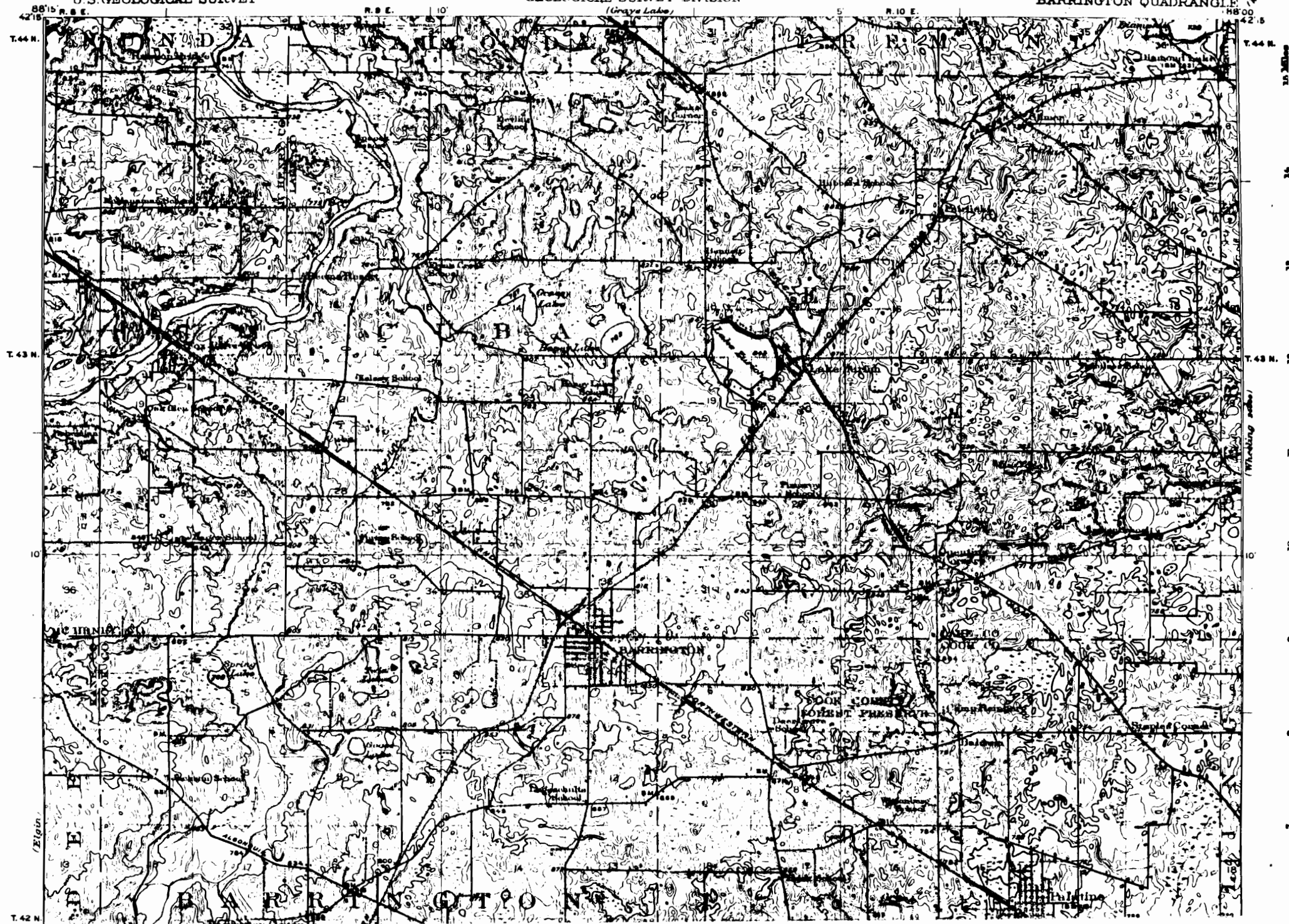
WATER (printed in blue)

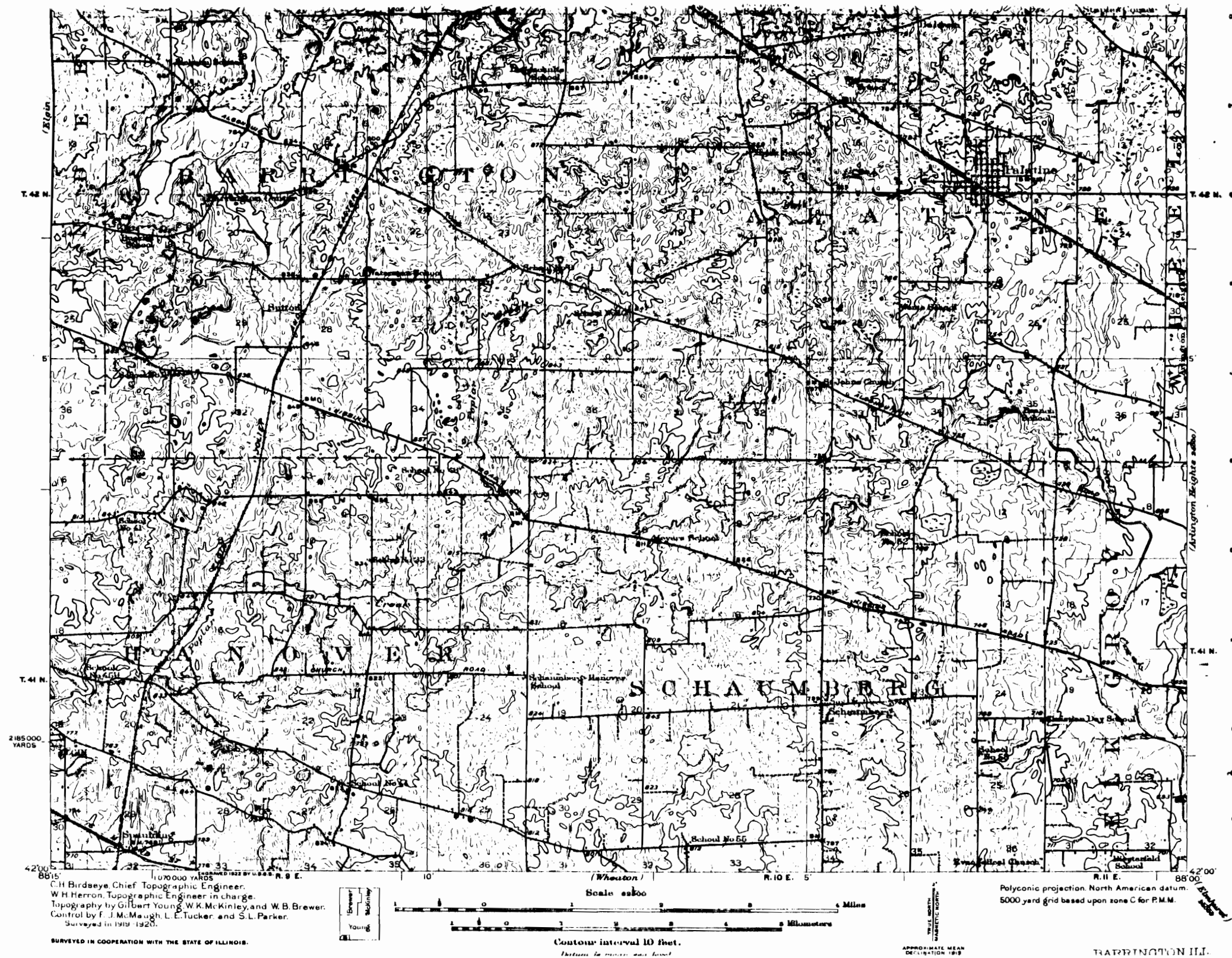


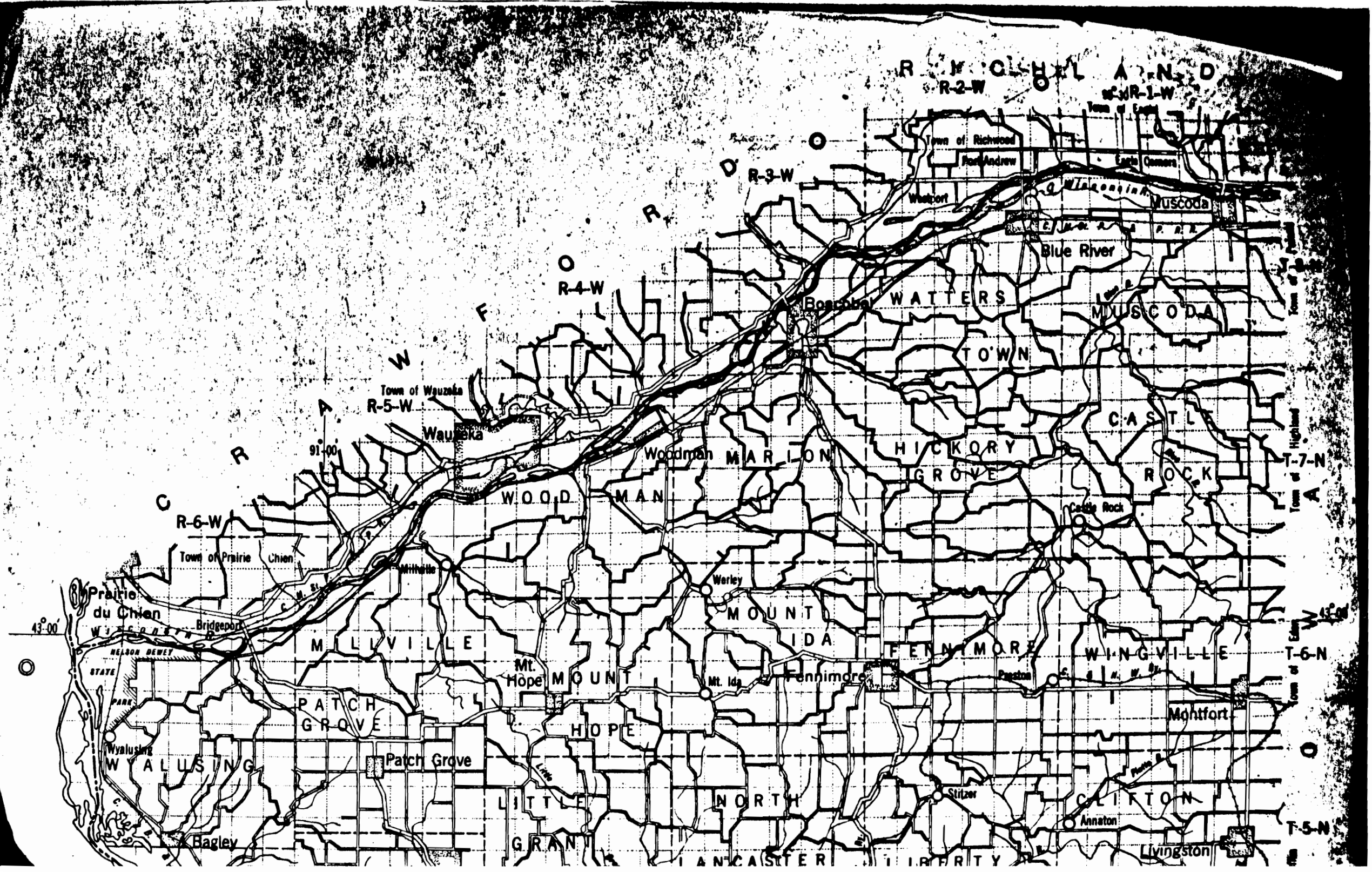
DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

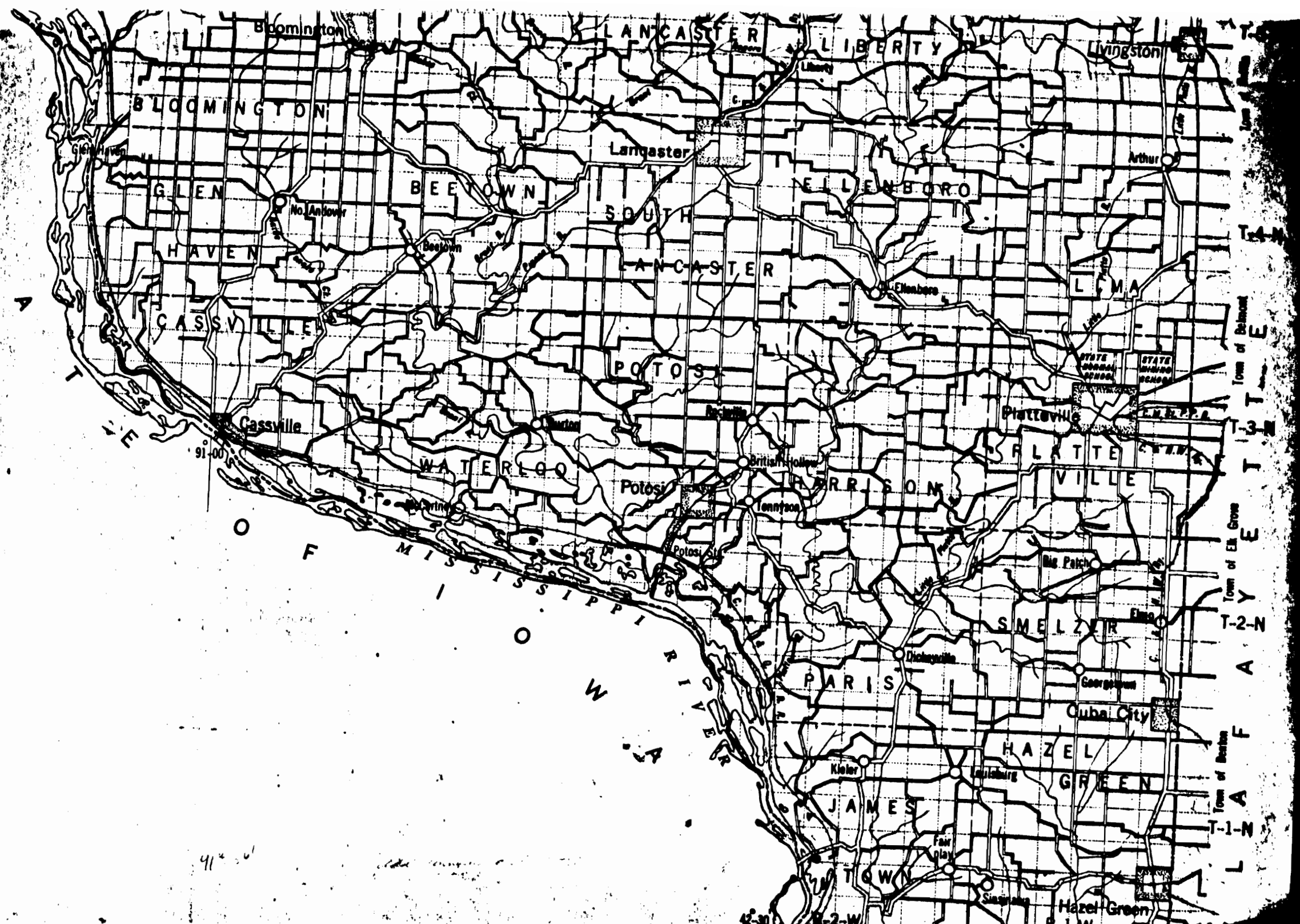
STATE OF ILLINOIS
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DEPARTMENT OF REGISTRATION AND EDUCATION
GEOLOGICAL SURVEY DIVISION

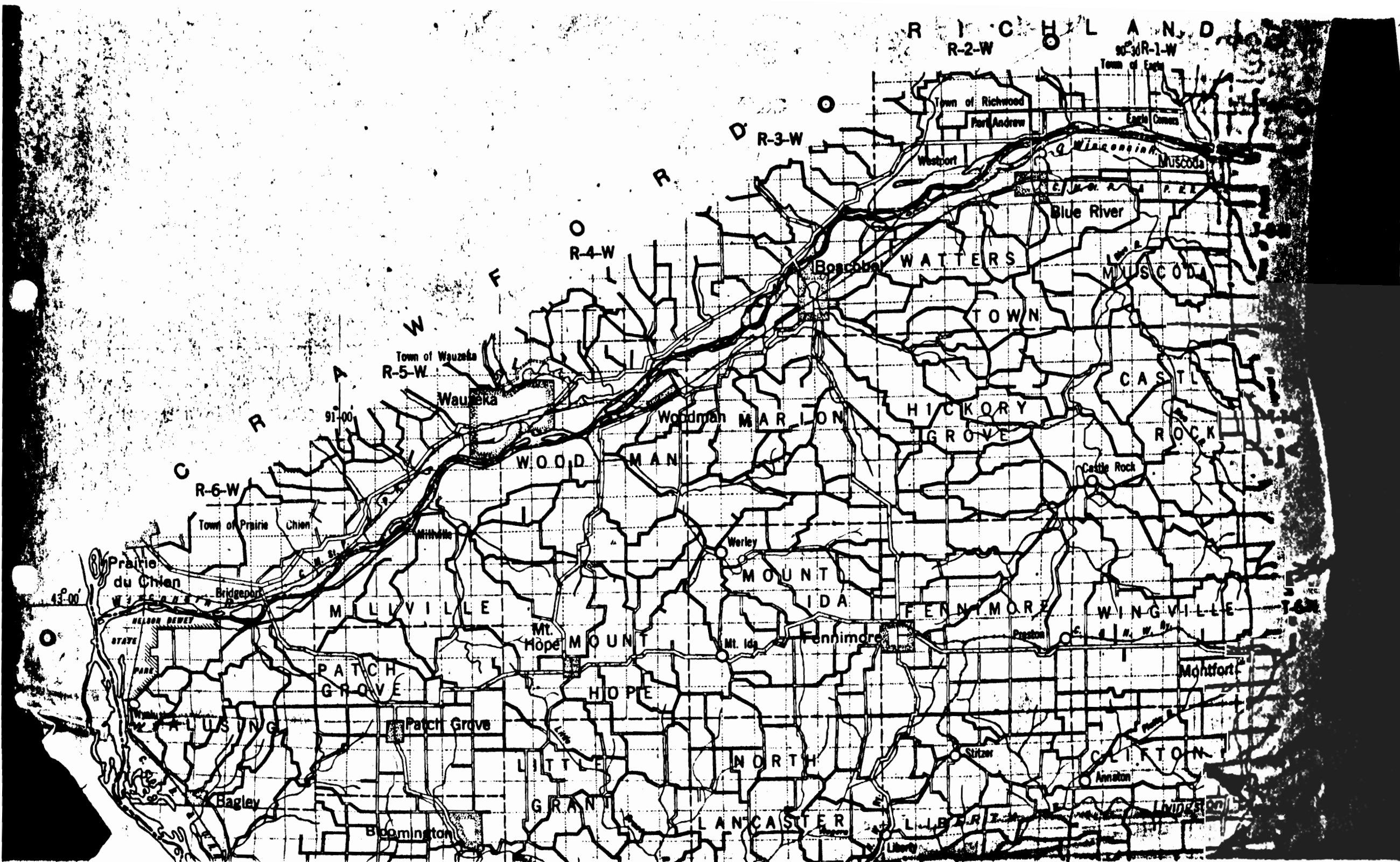
ILLINOIS
BARRINGTON QUADRANGLE

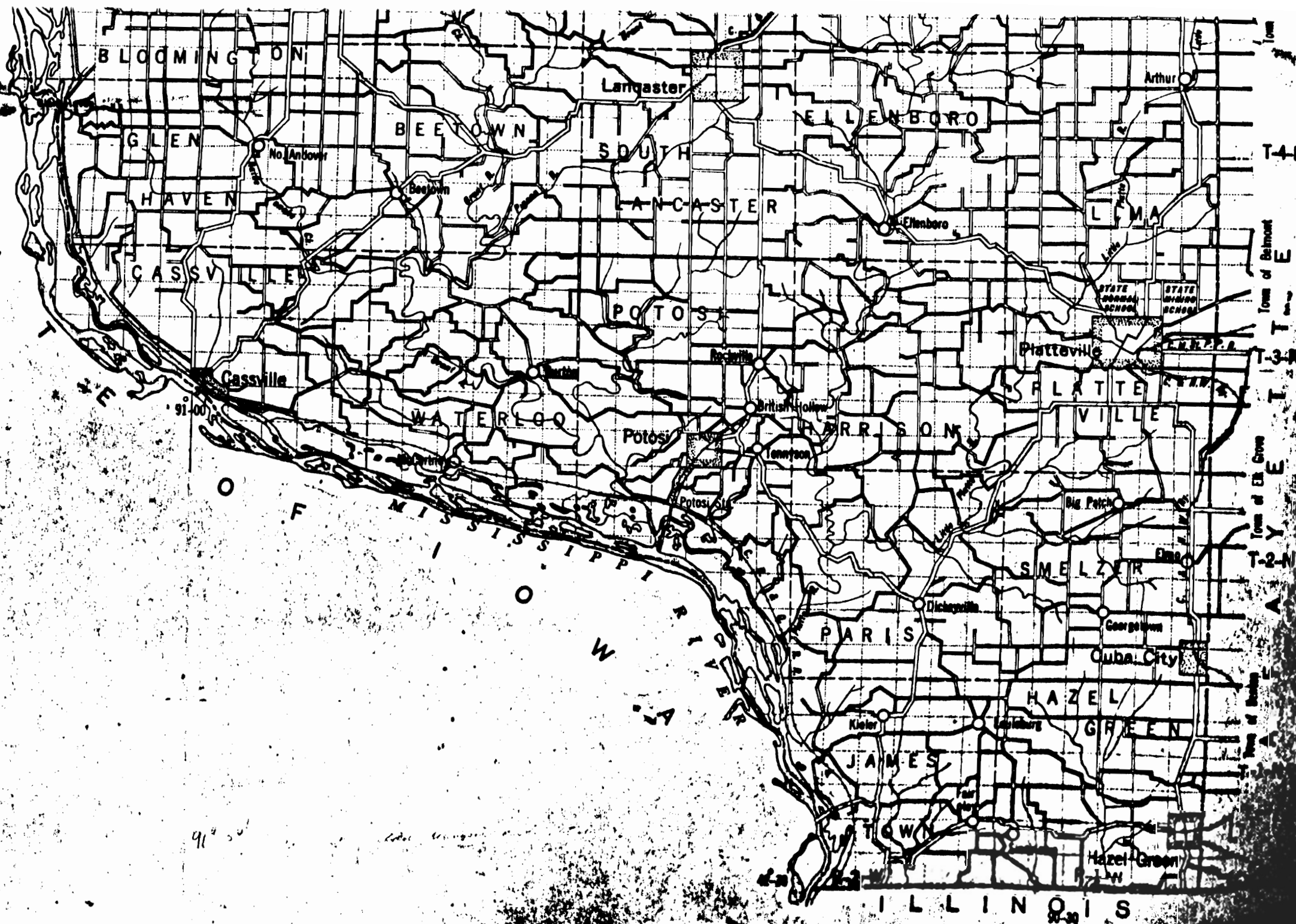


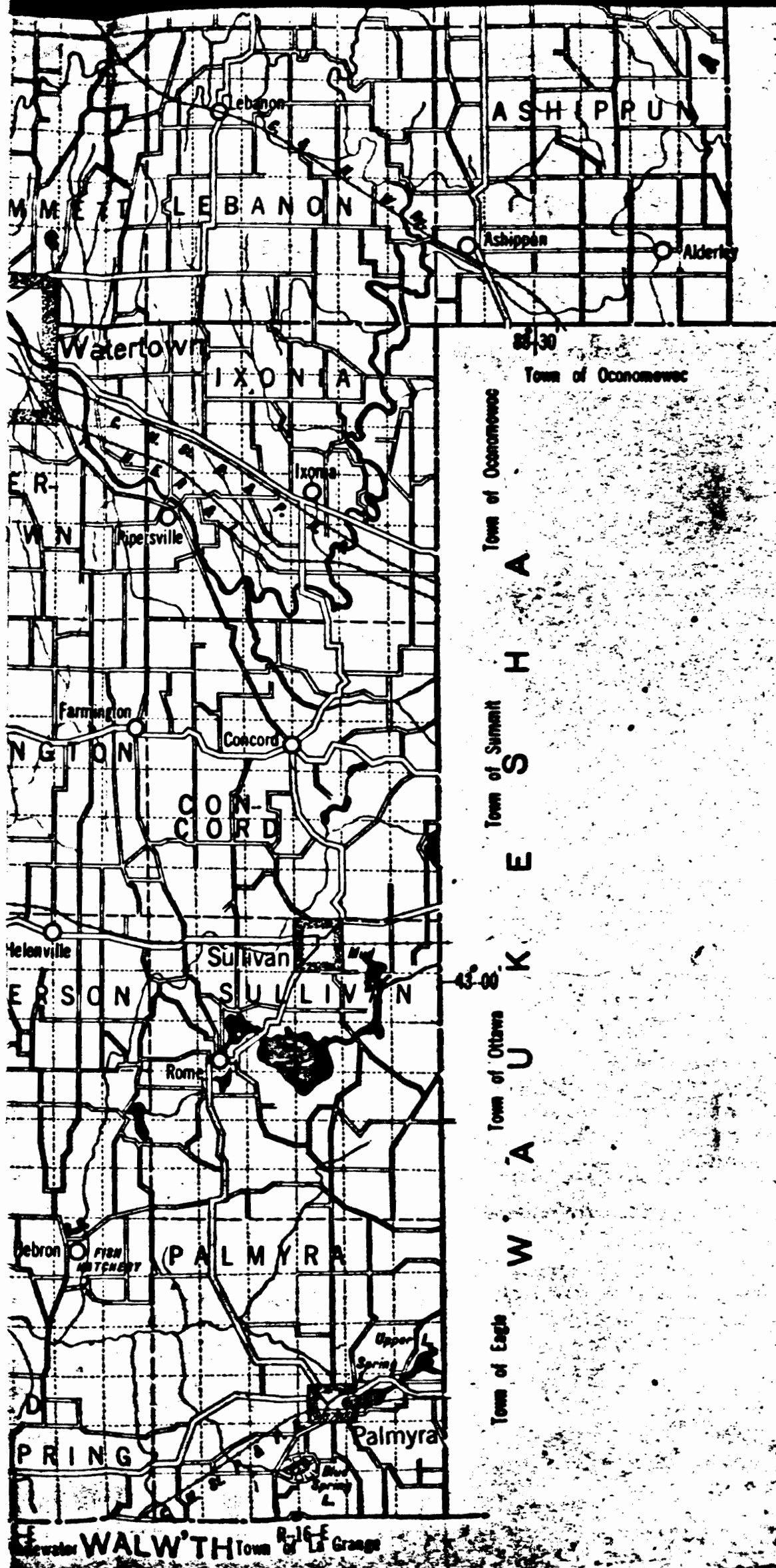












Town of Erin

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Town of Oconomowoc

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Town of Summit

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Town of Ottawa

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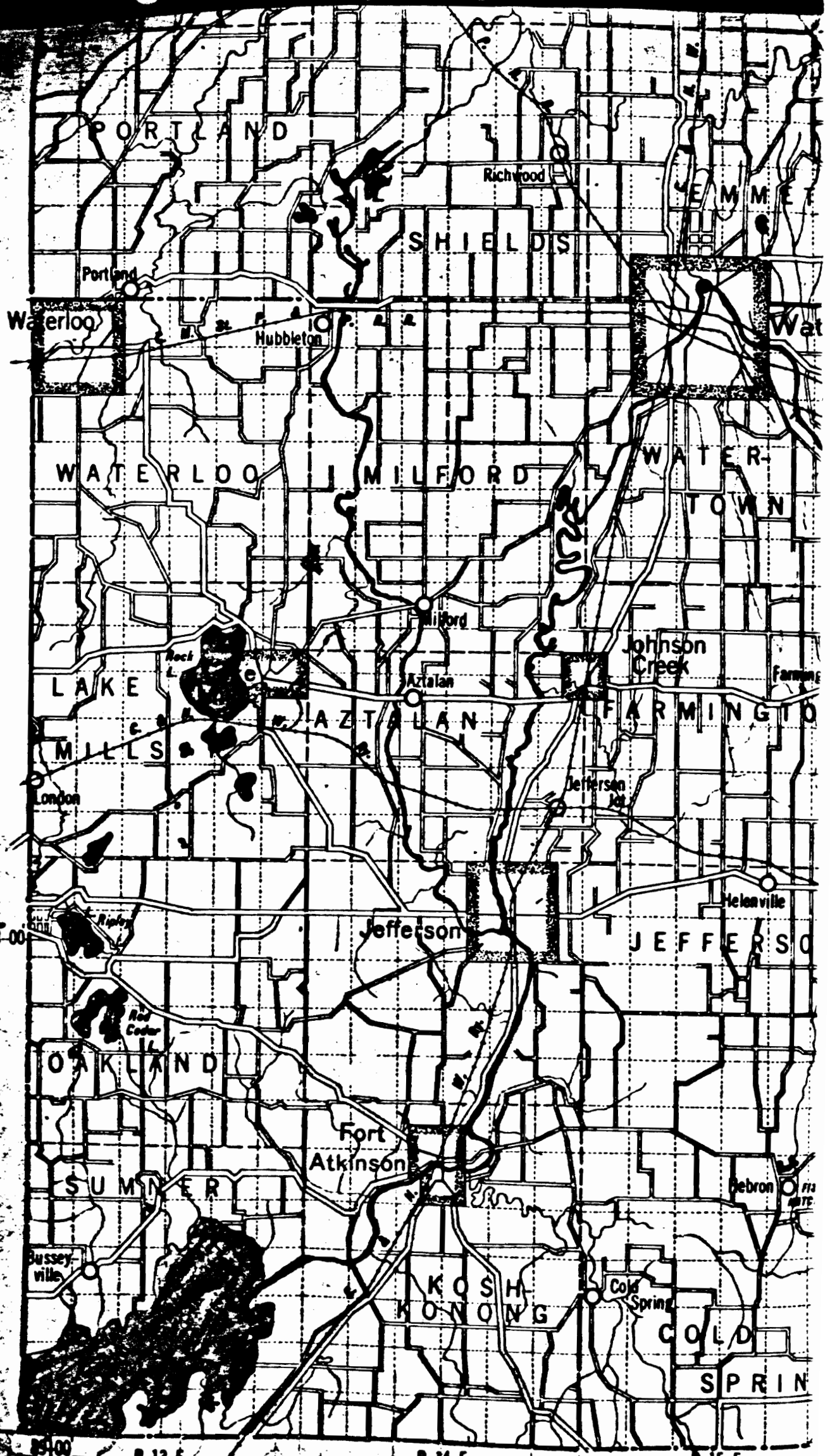
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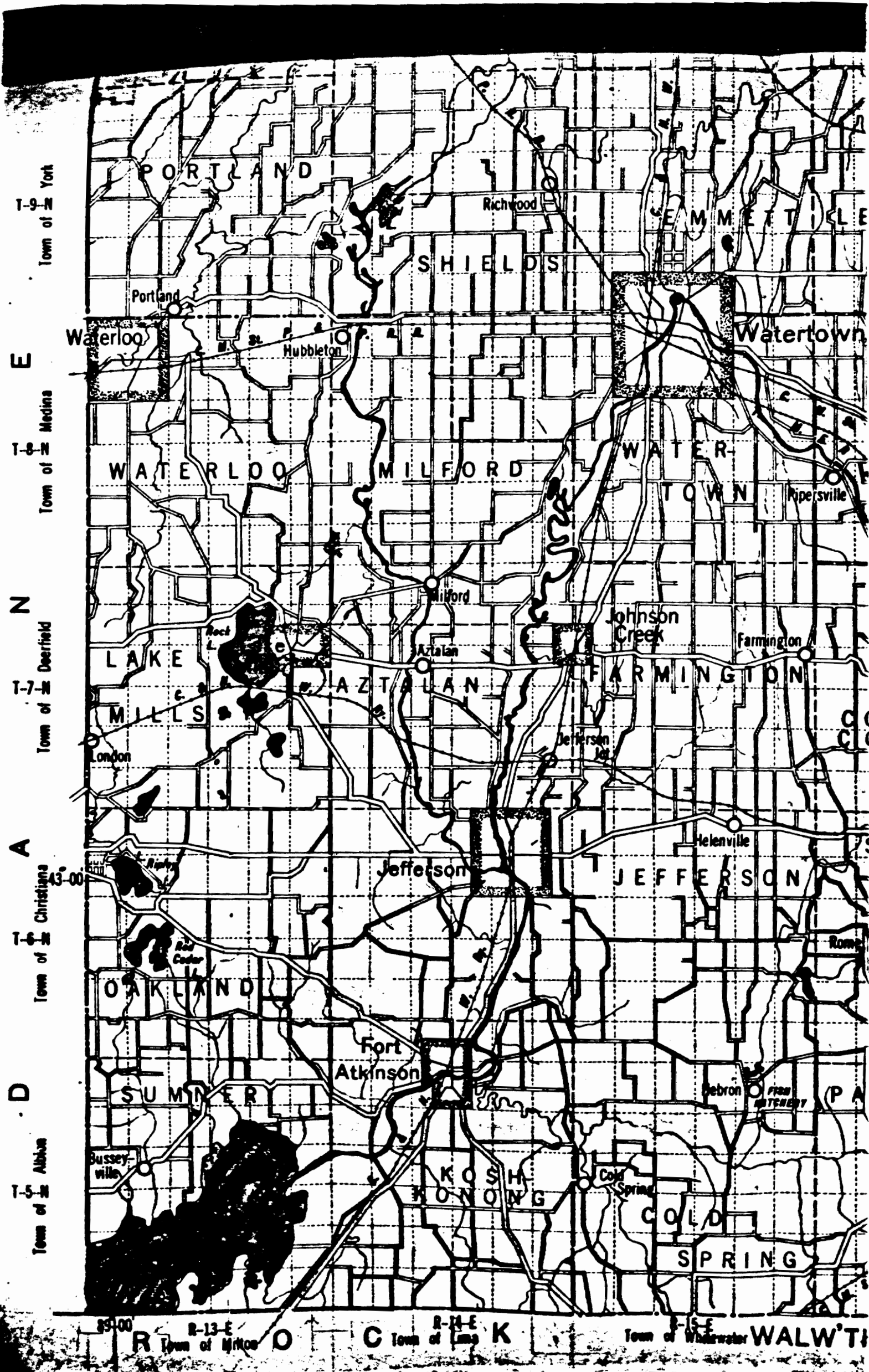
Walworth Town of Grange

DODGE
JEFFERSON

Town of York
T-9
E
Town of Medina
T-8
N
Town of Deerfield
T-7
A
Town of Christiansburg
T-6
D
Town of Albion
T-5



R-13-E
Town of Milton
O
R-14-E
Town of Lima
K
R-15-E
Town of Whitewater
W



Car No.	Make of Car	Motor No.	Purchased Where:	When:	By:	Subject:	1933 License	Remarks
1	Auburn Sedan	EB-1527	San Francisco Auburn Calif. Co., 1625 Van Ness Ave.	10/9/33	William B. Lohman, 1159 Van Ness Ave., San Francisco		Cal. 7-8-33	Vehicle & License
2	Buick Sedan	2797868 2647365 (Serial)	Reno - with new \$500 bills	1/11/33	R.E. Davis Hotel Anderson Reno		Nev. 1242 2/8/33	1933 Buick Reno
3	Buick Sedan	2858090 2703063 (Serial)	Toledo, Ohio F.E. Anderson 3900 Summit St. See 7-576-1707-3 for lead Chicago	9/27/33	T.C. Blackburn 4214 W. Lockwood (vacant lot) Toledo, Ohio		Ohio C-2471 9/28/33 Title #15271	1933 Buick Toledo, Ohio
4	Ford V-8 Sedan	18493080	Toledo Lyman D. Arnold 1002 Adams St.	9/15/33			Ohio C-2471 9/26/33	1933 Ford Toledo
5	Pontiac Sedan	885160 770178 (Serial)	Reno with new \$500 (2)	1/9/33	H.J. Harvey Hotel Anderson Reno		Nev. 1283 1/3/33	1933 Pontiac Reno
6	Ford V-8 Deluxe Coupe	328420		6/27/33	E.V. Davis		Ill. 1-2-33 7/21/33 Min. 1-2-33 1/3/33	1933 Ford Chicago
7	Chevrolet Sedan	3554674 1-CAD23077 (Serial)		4/15/33			Ill. 774-267 4/17/33	1933 Chevrolet Chicago
8	Plymouth Sedan	FB-81821 (now 8181) 175709 (Serial)					Nev. 7985 12/2/34	1933 Plymouth Reno
9	Ford V-8 Deluxe Coupe	18 304 794						
10	Graham-Paige	1024021 10181956 (Chassis #) -	San Francisco Graham-Paige Co. 1665 Van Ness St.	2/8/33	E. L. Burnes		Calif. 2-4-33 2/9/33	1933 Graham-Paige San Francisco
11	Dodge Sedan Traded in on #1	MP 65846		8/21/33	MP John H. Montgomery 3206 W. Jackson Blvd. Chicago		Ill. 1237651 8/23/33	1933 Dodge Chicago
12	Ford Tudor Sedan	3809716					Ohio C-53830 4-2-33 Toledo. (Accomp. of Car)	1933 Ford Toledo

By	Subject	'33 License	Name	'34 License	Name	Description
William B. Lohman, 1159 Van Ness Ave., San Francisco		Cal. 7-H-5762	William B. Lohman			'33 model - 12 cylind (brilliant blue) gray wheels - spares in fr colored) - 7-575-1623
E.E. Davis Hotel Anderson Reno		Nev. 1458 2/8/33 Title #4553	E.E. Davis Hotel Anderson Reno			32-37 model - dark gr spares in fender well
T.C. Blackburn 4214 N. Lockwood (vacant lot) Toledo, Ohio		Ohio C-25783 9/28/33 Title #352730	T.C. Blackburn 4214 N. Lockwood (vacant lot) Toledo, Ohio			'33-91 model - built wheels
		Ohio C-25771 9/26/33 Minn. 473-569	T.C. Blackburn 4214 N. Lockwood Toledo			
H.J. Harvey Hotel Anderson Reno		Nev. 1283 1/9/33	H.J. Harvey Hotel Anderson Reno			dark blue body- six wells - brown mohair
E.V. Davis		Ill. 1-246-602 7/31/33 Minn. B-473569 10/9/33	E.V. Davis P.O. Box 322 Grayslake E.V. Davis P.O. Box 52 Lakerville			'33 model
		Ill. 774267 4/17/33 Intercepted - not delivered	E.V. Davis 2408 Crawford Ave., Chicago	Minn. B-45372 1/11/34 Intercepted - not delivered	E.V. Davis P.O. Box 284 White Bear Lake	
		Nev. 7985 12/2/34	E.L. Burnes Bridgeway Apt. #20 Reno, Nevada 591 W. 7th, St. Paul, Minn. (fict.)			
				Minn. B-75035 Intercepted - not delivered	E.L. Murrey P.O. Box 345 White Bear Lake	
E. L. Burnes		Calif. 2-H-8661 2/9/33	E.L. Burnes 3870 California St. San Francisco			Sport sedan - '35 maroon colored - upholstery - U. wheels - trunk r wells-maroon net
MP John H. Montgomery 3206 W. Jackson Blvd. Chicago		Ill. 1237051 8/23/33	William Lohman 3453 W. Jackson Blvd. Chicago			
		Ohio C-53830 4209 1/2 N. Lockwood Toledo, Ohio. (Accompanied by purchaser of Car #4)	C.W. Woods			

'34 License	Name	Description	Remarks
		'33 model - 12 cylinder - blue body - Yankee blue - (brilliant blue) gray hood - canvas top - six wire wheels - spares in front fender wells - (wheels cream colored) - 7-576-1623	
		'32-37 model - dark green body - six wire wheels - two spares in fender wells	
		'33-91 model - built in trunk on rear- six wire wheels	To Calif. from Reno 11/17/33- returned 11/27/33 by Fred Barker using alias T.C. Blackburn
			To Calif. from Reno 10/25/33 George L. Martin
		dark blue body- six wire wheels - two spares in fender wells - brown mohair upholstery	
		'33 model	Seen in Reno, September and November 1933 in possession of subjects
Minn. B-45372 1/11/34 interior red - not delivered	E.V. Davis P.O. Box 254 White Bear Lake		
			'32 Minn B-158081 E.L. Burnes-same add
Minn. B-75038 interior red - not delivered	E.L. Murrey P.O. Box 345 White Bear Lake	Sport sedan -'57" model-deluxe 7-576-1611 (3) maroon colored - body and top - light brown upholstery - U. S. Royal tires - six wire wheels - trunk rack on back - two fender wells-maroon metal covers	Out-of-State permit obtained Feb. 1933 by E. L. Burnes Ridgeway Apts. Reno

Car No.	Make of Car	Motor No.	Purchased Where:	When:	By:	Subject:	'33 License and date obtained	Name
1	Arnold Sedan	EB-1527	San Francisco, Calif. Co., 1625 Van Ness Ave.	10/9/33	William B. Lohman, 1159 Van Ness Ave., San Francisco	A. J. Barker	Cal. 7-H-5762	William B. Lohman
2	Buick Sedan	2797868 2647365 (Serial)	Reno - with new \$500 bills	1/11/33	E. E. Davis Hotel Anderson Reno	F. Barker	Nev. 1468 2/8/33 Title #4553	E. E. Davis Hotel Anderson Reno
3	Buick Sedan	2858090 2703063 (Serial)	Toledo, Ohio F. E. Anderson 3900 Summit St. See 7-576-1707-3 for lead Chicago	9/27/33	T. C. Blackburn 4214 N. Lockwood (vacant lot) Toledo, Ohio		Ohio C-25783 9/28/33 Title #352730	T. C. Blackburn 4214 N. Lockwood (vacant lot) Toledo, Ohio
4	Ford V-8 Sedan	18493080	Toledo Lyman D. Arnold 1002 Adams St.	9/15/33			Ohio C-25771 9/26/33 Minn. 473-569	T. C. Blackburn 4214 N. Lockwood Toledo
5	Pontiac Sedan	885160 770178 (Serial)	Reno with new \$500 (2)	1/9/33	H. J. Harvey Hotel Anderson Reno		Nev. 1283 1/9/33	H. J. Harvey Hotel Anderson Reno
6	Ford V-8 Deluxe Coupe	328420		6/27/33	E. V. Davis		Ill. 1-246-602 7/31/33 Minn. 473569 10/9/33	E. V. Davis P.O. Box 1 Grayslake E. V. Davis P.O. Box 5 Lakewood
7	Chevrolet Sedan	3554674 1-CAD23077 (Serial)	old 6-20-24 in Vern. Motor Co. 5700 W. 25th St. Chicago replaced by The Engl. (B-11) 5700 W. 25th St. Chicago	4/15/33			Ill. 774267 4/17/33 Trans. 1000 in A-6 - 7-11-33	E. V. Davis 2408 Crawford Ave., Chicago
8	Plymouth Sedan This car traded in on #10	FB-51821 (now 5181) 175709 (Serial)					Nev. 7985 12/2/34	E. L. Burnes Hidgeway & Reno, Nevada 591 W. 7th St. Paul, Minn. (fict.)
9	Ford V-8 Deluxe Coupe	18 304 794						
10	Graham-Paige	1024021 10181956 (Chassis #)	San Francisco - Graham-Paige Co. 1665 Van Ness St.	2/8/33	E. L. Burnes		Calif. 2-H-8661 2/9/33	E. L. Burnes 3870 Calif. St. San Francisco
11	Dodge Sedan Traded in on #1	HP 65846		8/21/33	HP-John H. Montgomery 3208 W. Jackson Blvd. Chicago		Ill. 1237051 8/23/33	William L. 3453 W. 34 Blvd. Chicago
12	Ford Tudor Sedan	3809716					Ohio C-53830	C. W. Woods 4209 1/2 N. E. Toledo, Ohio (Accompanied by Car #

	Subject	'33 License and date obtained	Name	'34 License	Name	Description
1 B. in Hess in Francisco	A. J. [unclear] Davis	Cal. 7-H-5762	William B. Lohman (Hess)			'33 model - 12 cylinder - blue box (brilliant blue) gray hood - canvas wheels - spares in front fender w. colored) - 7-576-1623
is Anderson	F. Barker	Nev. 1488 2/8/33 Title #4553	R. E. Davis Hotel Anderson Reno			32-37 model - dark green body - spares in fender wells
ckburn Lockwood lot) Ohio		Ohio C-25783 9/28/33 Title #352730	T. C. Blackburn 4214 W. Lockwood (vacant lot) Toledo, Ohio			'33-31 model - built in trunk on wheels
		Ohio C-25771 9/26/33 Minn. 473-569	T. C. Blackburn 4214 W. Lockwood Toledo			
vey Anderson		Nev. 1283 1/9/33	H. J. Harvey Hotel Anderson Reno			dark blue body - six wire wheels - wells - brown mohair upholstery
is		Ill. 1-246-602 7/31/33 Minn. B-473569 10/9/33	E. V. Davis P.O. Box 322 Grayslake E. V. Davis P.O. Box 52 Lakeville			'33 model
		Ill. 774267 4/17/33 Transferred to Ill. #6 - 7-11-33	E. V. Davis 2408 Crawford Ave., Chicago	Minn. B-45372 1/11/34 (intercepted - not delivered)	E. V. Davis P.O. Box 254 White Bear Lake	
		Nev. 7985 12/2/34	E. L. Burnes 33daway Apt. #20 Reno, Nevada 591 W. 7th, St. Paul, Minn. (fict.)			
				Minn. B-75038 intercepted - not delivered	E. L. Murrey P.O. Box 345 White Bear Lake	
urnes		Calif. 2-H-8661 2/9/33	E. L. Burnes 3870 California St. San Francisco			Sport sedan - '57" model - deluxe maroon colored - body and top - upholstery - U. S. Royal tires - wheels - trunk rack on back - wells - maroon metal covers
W. Montgomery W. Jackson Blvd. Chicago		Ill. 1237051 8/23/33	William Lohman 3453 W. Jackson Blvd. Chicago			
		Ohio C-53830	C. W. Woods 4209 W. Lockwood Toledo, Ohio. (accompanied by purchaser of car #4)			

License	Name	Description	Remarks
		'33 model - 12 cylinder - blue body - Yankee blue - (brilliant blue) gray hood - canvas top - six wire wheels - spares in front fender wells - (wheels cream colored) - 7-576-1623	
		'32-37 model - dark green body - six wire wheels - two spares in fender wells	
		'33-31 model - built in trunk on rear - six wire wheels	To Calif. from Reno 11/17/33 - returned 11/27/33 by Fred Barker using alias T.O. Blackburn
			To Calif. from Reno 10/25/33 George L. Martin
		dark blue body - six wire wheels - two spares in fender wells - brown mohair upholstery	
		'33 model	Seen in Reno, September and November 1933 in possession of subjects
inn. B-45372 1/11/34 intercepted - not delivered	E.V. Davis P.O. Box 254 White Bear Lake		
			'32 Minn B-158061 E.L. Burnes - same address
inn. B-75038 intercepted - not delivered	E.L. Murrey P.O. Box 345 White Bear Lake		
		Sport sedan - '57" model - deluxe 7-576-1611 (3) maroon colored - body and top - light brown upholstery - U. S. Royal tires - six wire wheels - trunk rack on back - two fender wells - maroon metal covers	Out-of-State permit obtained Feb. 1933 by E. L. Burnes Ridgeway Apts. Reno

Car No.	Make of Car	Motor No.	Purchased Where	When	By	Subject	1933 License	Name
1	Auburn Sedan	HB-1527	San Francisco Auburn Calif. Co., 1625 Van Ness Ave.	10/9/33	William B. Lohman, 1159 Van Ness Ave., San Francisco		Cal. 7-F-576	William B. Lohman
2	Buick Sedan	2797868 26-7365 (Serial)	Reno - with new \$500 bills	1/11/33	R.F. Davis Hotel Anderson Reno		Nev. 1448 2/8/33 4-553	R.F. Davis Hotel Anderson Reno
3	Buick Sedan	2858090 2733053 (Serial)	Toledo, Ohio F.F. Anderson 1900 Summit St. See 7-576-1707-3 for lead Chicago	9/27/33	T.C. Blackburn 4214 N. Lockwood (vacant lot) Toledo, Ohio		Ohio C-25783 9/28/33 Title #152730	T.C. Blackburn 4214 N. Lockwood (vacant lot) Toledo, Ohio
4	Ford V-8 Sedan	18-93 80	Toledo Lyman D. Arnold 1002 Adams St.	9/15/33			Ohio C-25771 9/26/33 Minn. 473-569	T.C. Blackburn 4214 N. Lockwood Toledo
5	Pontiac Sedan	835160 770178 (Serial)	Reno with new \$500 (2)	1/9/33	H.J. Harvey Hotel Anderson Reno		Nev. 1283 1/9/33	H.J. Harvey Hotel Anderson Reno
6	Ford V-8 Deluxe Coupe	322420		6/27/33	E.V. Davis		Ill. 1-244-652 7/31/33 Minn. B-473569 10/9/33	E.V. Davis P.O. Box 322 Graylake E.V. Davis P.O. Box 52 Lakewille
7	Chevrolet Sedan	3554674 1-CAD23077 (Serial)		4/15/33			Ill. 774267 4/17/33	E.V. Davis 2408 Crawford Ave., Chicago
8	Plymouth Sedan	PR-81321 (now 8121) 175793 (Serial)					Nev. 7985 12/2/34	E.L. Burnes Highway Apt. #20 Reno, Nevada 531 W. 7th, St. Paul, Minn. (first.)
9	Ford V-8 Deluxe Coupe	18 30- 734						
10	Graham-Paige	100421 1-213 (Chassis #)	San Francisco Graham-Paige Co. 1605 Van Ness St.	2/5/33	E. L. Burnes		Calif. 2-H-8061 2/9/33	E.L. Burnes 387 California St. San Francisco
11	Dodge Sedan Traded in on #1	DP 65846		8/21/33	W.P. John H. Montgomery 3206 W. Jackson Blvd. Chicago		Ill. 1237051 8/23/33	William Lohman 3453 W. Jackson Blvd. Chicago
12	Ford Tudor Sedan	3809716					Ohio C-53830	C.W. Woods 4209 N. Lockwood Toledo, Ohio. (Accompanied by purchase of Car #4)

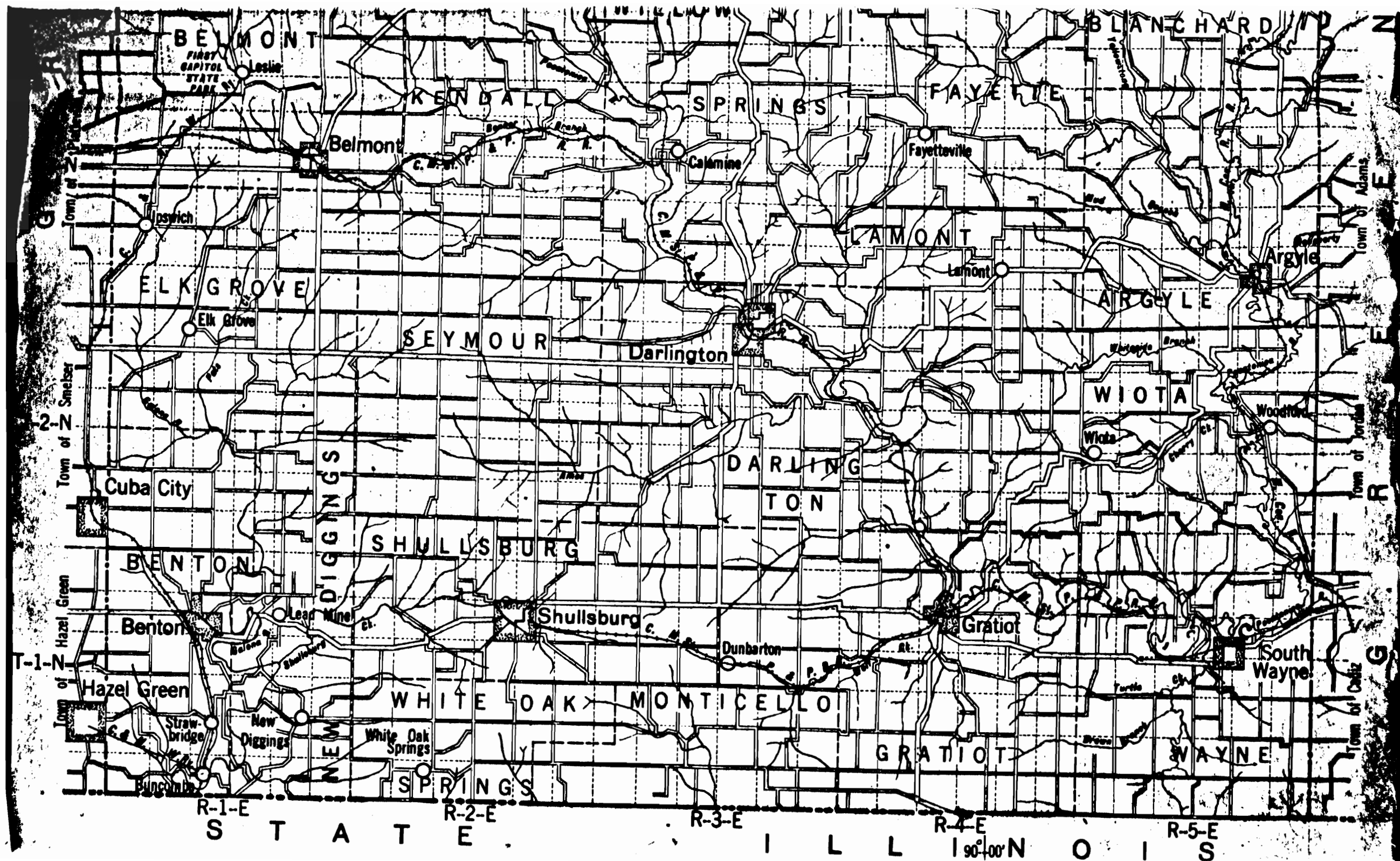
Purchased Where	When	By	Subject	'33 License	Name	'34 License	Name
San Francisco Auburn Calif. Co., 1625 Van Ness Ave.	10/9/33	William B. Lohman, 1159 Van Ness Ave., San Francisco		Cal. 7-H-5762	William B. Lohman		
Reno - with serial) new \$500 bills	1/11/33	R.E. Davis Hotel Anderson Reno		Nev. 1488 2/8/33 #4553	R.E. Davis Hotel Anderson Reno		
Toledo, Ohio al) F.F. Anderson 3900 Summit St. See 7-576-1767-3 for lead Chicago	9/27/33	T.C. Blackburn 4214 N. Lockwood (vacant lot) Toledo, Ohio.		Ohio C-25783 9/28/33 Title #352730	T.C. Blackburn 4214 N. Lockwood (vacant lot) Toledo, Ohio		
Toledo Lynman D. Arnold 1002 Adams St.	9/14/33			Ohio C-25771 9/26/33 Minn. 473-569	T.C. Blackburn 4214 N. Lockwood Toledo		
Reno 1) with new \$500 (2)	1/9/33	H.J. Harvey Hotel Anderson Reno		Nev. 1283 1/9/33	H.J. Harvey Hotel Anderson Reno		
	1/27/33	E.V. Davis		Ill. 1-246-602 7/31/33 Minn. B-473569 10/9/33	E.V. Davis P.O. Box 322 Grayslake E.V. Davis P.O. Box 52 Lakerville		
erial)) - 15/33 al) (181) al)				Ill. 774267 4/17/33 Minn. B-45372 1/11/34 P.O. Box 254 White Bear Lake	E.V. Davis 2408 Crawford Ave., Chicago E.V. Davis P.O. Box 254 White Bear Lake		
				Nev. 7985 12/2/34	E.L. Burnes Ridgeway Apt. #20 Reno, Nevada 591 W. 7th. St. Paul, Minn. (fict.)		
						Minn. B-75038 E.L. Murrey P.O. Box 345 White Bear Lake	
San Francisco atic #) - Graham-Palmer Co. 1625 Van Ness St.	2/8/33	E. L. Burnes		Calif. 2-H-8661- 2/9/33 3870 California St. San Francisco	E.L. Burnes		
	8/21/33	HP-John H. Montgomery 3206 W. Jackson Blvd. Chicago		Ill. 1237051 8/23/33 3453 W. Jackson Blvd. Chicago	William Lohman 3453 W. Jackson Blvd. Chicago		
				Ohio C-53830 4214 N. Lockwood Toledo, Ohio. (Accompanied by purchaser of Car #4)	C.W. Woods 4214 N. Lockwood Toledo, Ohio. (Accompanied by purchaser of Car #4)		

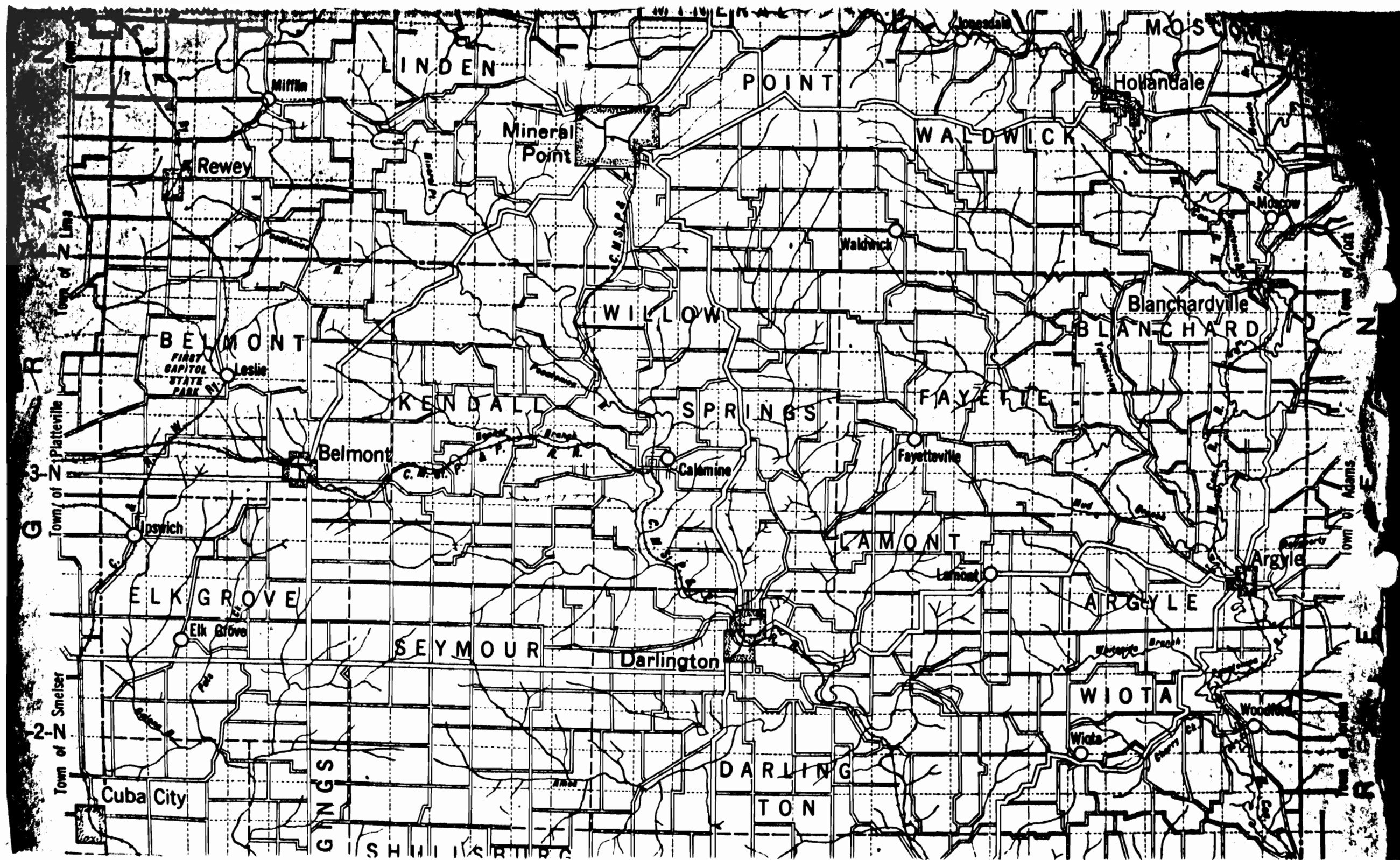
License	Name	Description	Remarks
		'33 model - 12 cylinder - blue body - Yankee blue - (brilliant blue) gray hood - canvas top - six wire wheels - spares in front fender wells - (wheels cream colored) - 7-576-1623	
		32-37 model - dark green body - six wire wheels - two spares in fender wells	
		'33-91 model - built in trunk on rear- six wire wheels	To Calif. from Reno 11/17/33- returned 11/27/33 by Fred Barker using alias F.C. Blackburn
			To Calif. from Reno 10/25/33 George L. Martin
		dark blue body- six wire wheels - two spares in fender wells - brown mohair upholstery	
		'33 model	Seen in Reno, September and November 1933 in possession of subjects
Minn. B-45372 1/11/34 White Bear Lake	E.V. Davis P.O. Box 254 White Bear Lake		
			'32 Minn B-158081 E.L. Burnes-same address
Minn. B-75035 White Bear Lake	E.L. Murrey P.O. Box 345 White Bear Lake	Sport sedan - '37" model-deluxe 7-576-1611 (3) maroon colored - body and top - light brown upholstery - U. S. Royal tires - six wire wheels - trunk rack on back - two fender wells-maroon metal covers	Out-of-State permit obtained Feb. 1933 by E. L. Burnes Ridgeway Apts. Reno

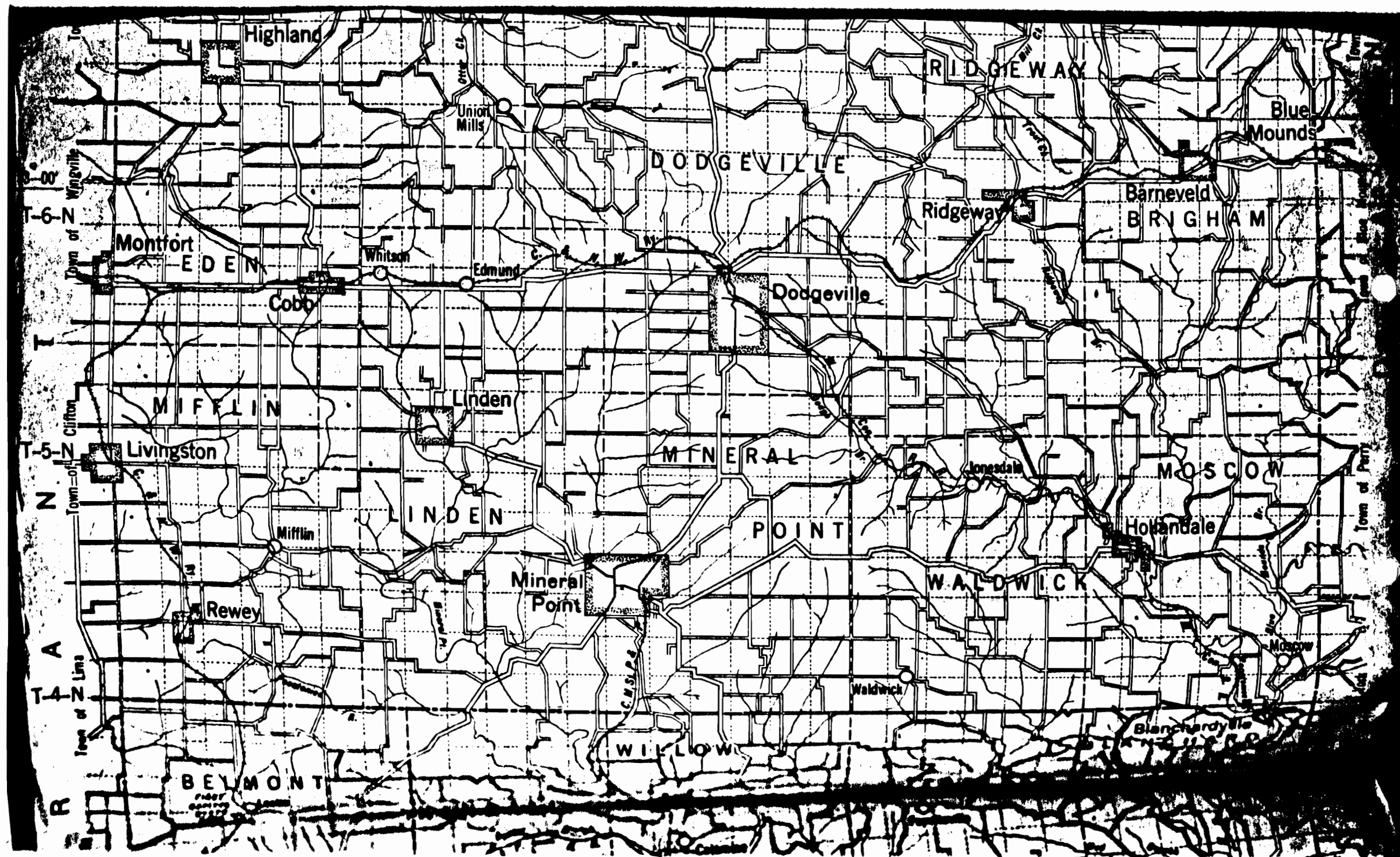
Car No.	Make of Car	Motor No.	Purchased Where	When	By	Subject	License	Name
1	Auburn Sedan	EB-1527	San Francisco Auburn Calif. Co., 1625 Van Ness Ave.	10/9/33	William B. Lohman, 1159 Van Ness Ave., San Francisco		Cal. 7-B-5752	William B. Lohman
2	Buick Sedan	2797368 2647365 (Serial)	Reno - with new \$500 bills	1/11/33	R. E. Davis Hotel Anderson Reno		Nev. 1488 2/8/33 4-53	R. E. Davis Hotel Anderson Reno
3	Buick Sedan	2858090 2703063 (Serial)	Toledo, Ohio F. F. Anderson 3900 Summit St. See 7-576-1707-3 for lead Chicago	9/27/33	T. C. Blackburn 4214 N. Lockwood (vacant lot) Toledo, Ohio.		Ohio 2-25783 9/28/33 Title #32730	T. C. Blackburn 4214 N. Lockwood (vacant lot) Toledo, Ohio.
4	Ford V-8 Sedan	18-93060	Toledo Lyman D. Arnold 1002 Adams St.	9/15/33			Ohio 2-25771 9/26/33	T. C. Blackburn 4214 N. Lockwood Toledo
5	Pontiac Sedan	585160 770178 (Serial)	Reno with new \$500 (2)	1/9/33	H. J. Harvey Hotel Anderson Reno		Nev. 1283 1/9/33	H. J. Harvey Hotel Anderson Reno
6	Ford V-8 Deluxe Coupe	328420		6/27/33	E. V. Davis		Ill. 1-246-602 7/31/33 Minn. B-473569 10/9/33	E. V. Davis P. O. Box Oriskany I. V. Davis P. O. Box Lakewood
7	Chevrolet Sedan	3554674 1-CAD23077 (Serial)	LA 4-20-34 Veh. Reg. Co. 5110 W. 12th St., Chicago, Ill.	4/15/33			Ill. 77-267 4/17/33 Veh. Reg. Co. 5110 W. 12th St., Chicago, Ill.	E. V. Davis 2402 Oak Ave., Chicago Veh. Reg. Co. 5110 W. 12th St., Chicago, Ill.
8	Plymouth Sedan This car traded in on #10	PB-81821 (now 8181) 175709 (Serial)					Nev. 7987 12/2/33	E. L. Barnes Highway 4 Reno, Nev. 591 W. 7th St. Paul, Minn. (dist.)
9	Ford V-8 Deluxe Coupe	18 304 794						
10	Graham-Paige	1024021 10181956 (Chassis #)	San Francisco - Graham-Paige Co. 1665 Van Ness St.	2/8/33	E. L. Barnes		Calif. 2-B-8661 2/9/33	E. L. Barnes 3570 Oak St. San Francisco
11	Dodge Sedan Traded in on #1	DP 65846		8/21/33	NP-John H. Montgomery 3208 W. Jackson Blvd. Chicago		Ill. 1237051 8/23/33	William 3451 W. 1st St. Chicago
12	Ford Tudor Sedan	3809716					Ohio C-53830	C. E. Wood 4209 E. Toledo, (Accompany of Car

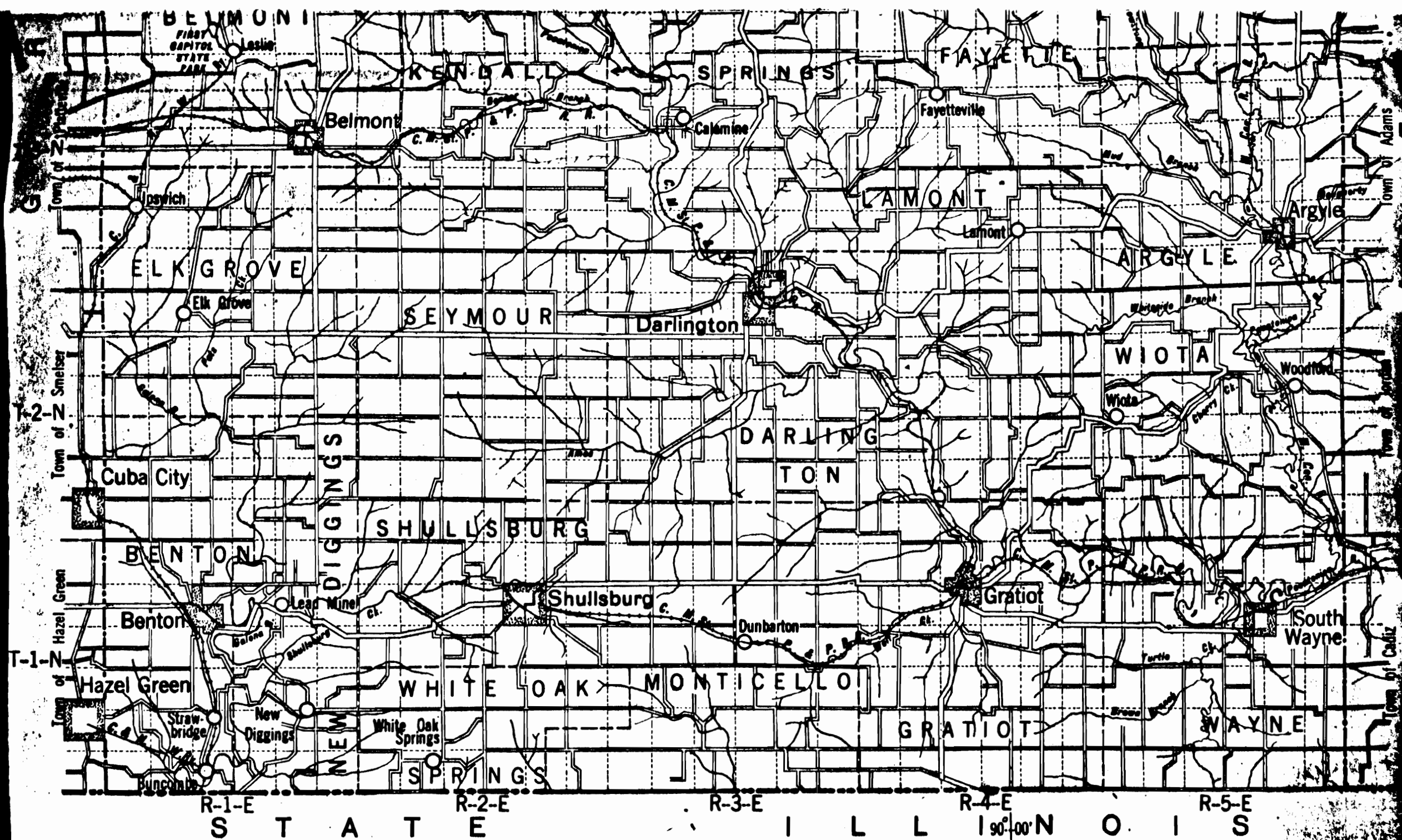
Subject	'33 License	Name	'34 License	Name	Description
San Francisco	Calif. 7-F-5750	William B. Lehman			'33 model - 12 cylinder - blue body (brilliant blue) gray hood - canvas wheels - spares in front fender well colored) - 7-5750-1623
San Francisco	Nev. 1478 2/8/33 4-113	E.E. Davis Hotel Anderson Reno			'33-37 model - dark green body - six spares in fender wells
San Francisco	Ohio C-25783 9/28/33 Title #352730	T.O. Blackburn 4214 N. Lockwood (vacant lot) Toledo, Ohio			'33-31 model - built in trunk on rear wheels
	Ohio C-25771 9/26/33 Minn. 473-569	T.O. Blackburn 4214 N. Lockwood Toledo			
San Francisco	Nev. 1233 1/9/33	E.J. Harvey Hotel Anderson Reno			dark blue body - six wire wheels - two wells - brown mohair upholstery
	Ill. 1-246-602 7/31/33 Minn. B-473569 10/9/33	E.V. Davis P.O. Box 322 Gravelake E.V. Davis P.O. Box 52 Lakewood			'33 model
	Ill. 774267 4/17/33 Minn. B-473569 10/9/33	E.V. Davis 2408 Crawford Ave., Chicago	Minn. B-5572 1/11/34 White Bear Lake	E.V. Davis P.O. Box 254 White Bear Lake	
	Nev. 7985 12/2/34	E.L. Burnes Ridgeway Apt. #20 Reno, Nevada 531 W. 7th, St. Paul, Minn. (State)			
			Minn. B-75033	E.L. Murray P.O. Box 3-5 White Bear Lake	
	Calif. C-4-8561 2/9/33	E.L. Burnes 3870 California St. San Francisco			Sport sedan - '37 model - deluxe 7-5 maroon colored - body and top - 11 upholstery - U. S. Royal tires - wheels - trunk rack on back - two wells - maroon metal covers
San Francisco	Ill. 1237-51 8/21/33	William Lehman 3453 W. Jackson Blvd. Chicago			
	Ohio C-53330	C.W. Woods 4214 N. Lockwood Toledo, Ohio (Accompanied by purchaser of Car #4)			

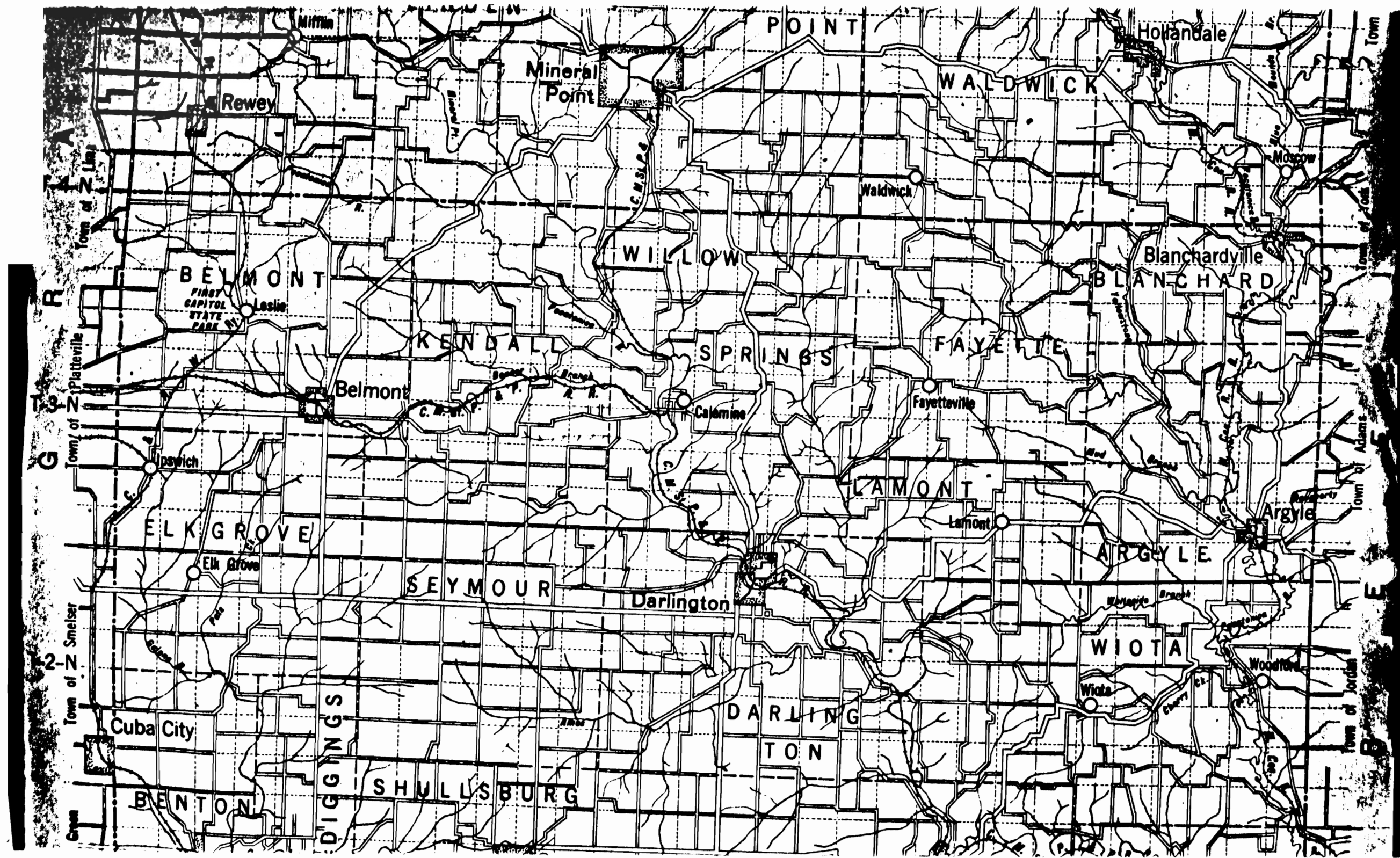
License	Name	Description	Remarks
		'33 model - 12 cylinder - blue body - Yancey blue - (brilliant blue) gray hood - canvas top - six wire wheels - spares in front fender wells - (wheels cream colored) - 7-576-1623	
		'35-37 model - dark green body - six wire wheels - two spares in fender wells	
		'33-34 model - built in trunk on rear - six wire wheels	To Calif. from Reno 11/17/33 - returned 11/27/33 by Fred Barker using alias W.C. Blackburn
			To Calif. from Reno 10/25/33 George L. Martin
		dark blue body - six wire wheels - two spares in fender wells - brown mahair upholstery	
		'33 model	Seen in Reno, September and November 1933 in possession of subjects
B-5372	E.V. Davis P.O. Box 254 White Bear Lake		
			'32 Minn B-158081 E.L. Barnes - same address
B-75034	E.L. Varney P.O. Box 345 White Bear Lake	Sport sedan - '37 model - deluxe 7-576-1611 (3) maroon colored - body and top - light brown upholstery - U. S. Royal tires - six wire wheels - trunk rack on back - two fender wells - maroon metal covers	Out-of-State permit obtained Feb. 1933 by E. L. Barnes Ridgeway Apts. Reno

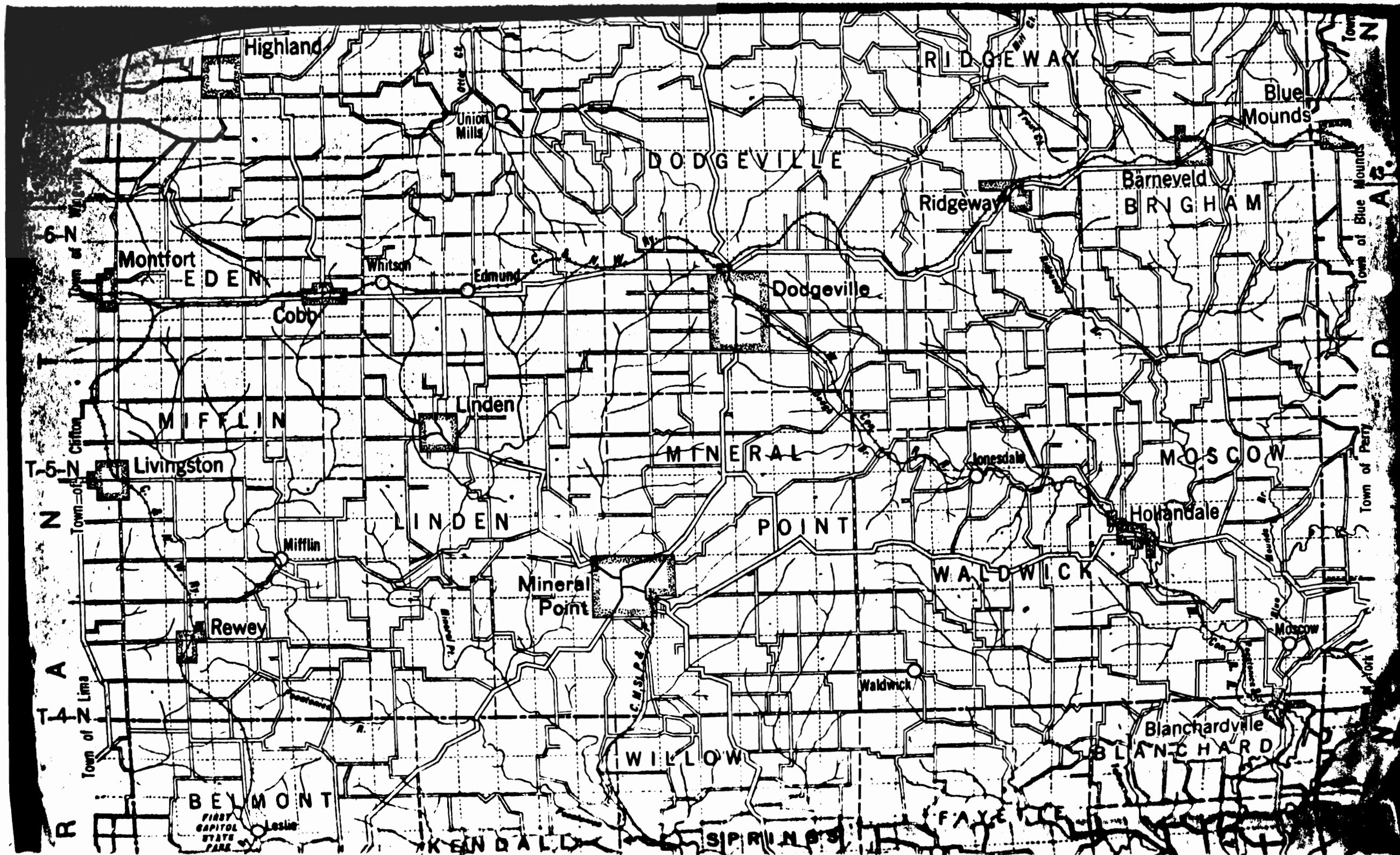


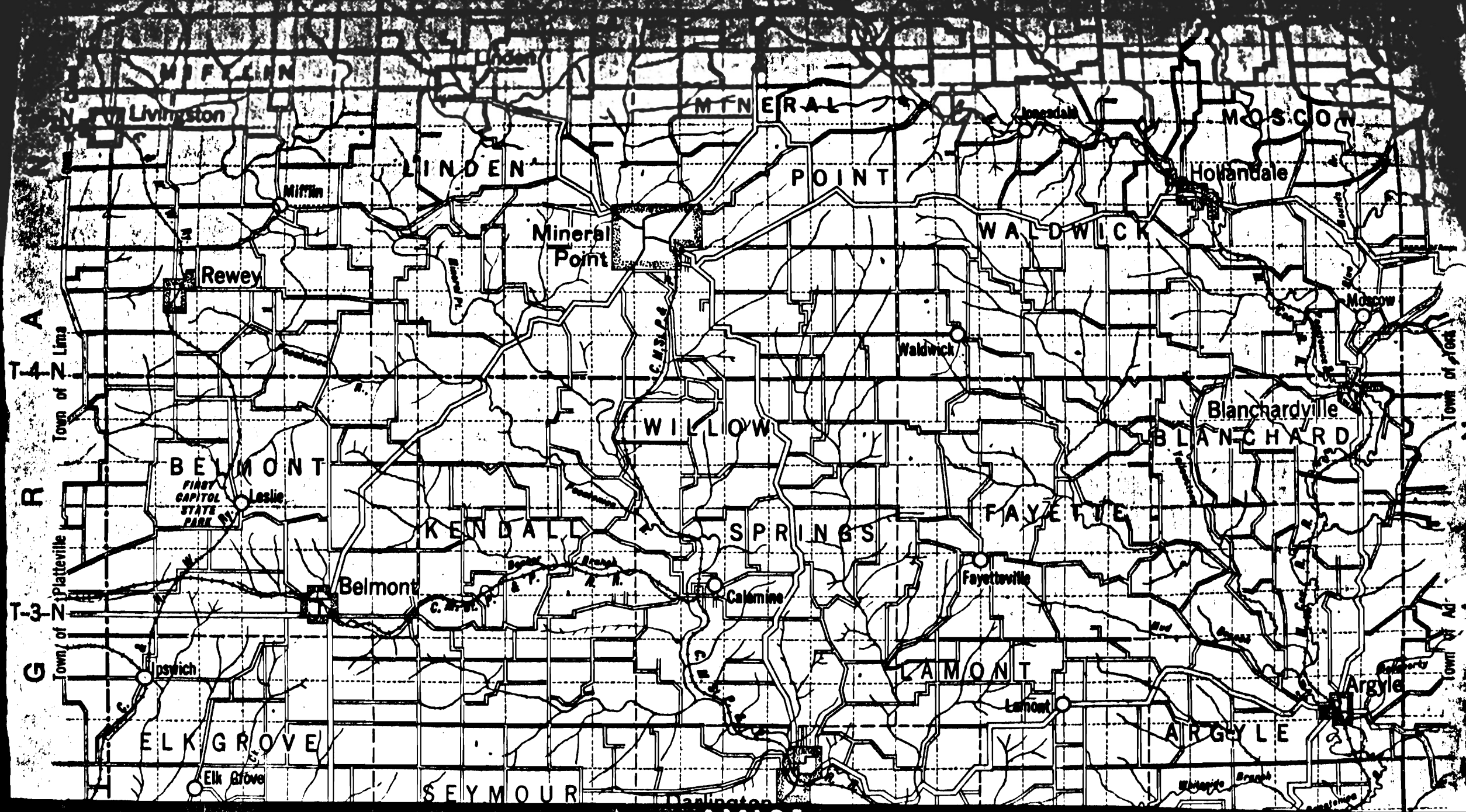




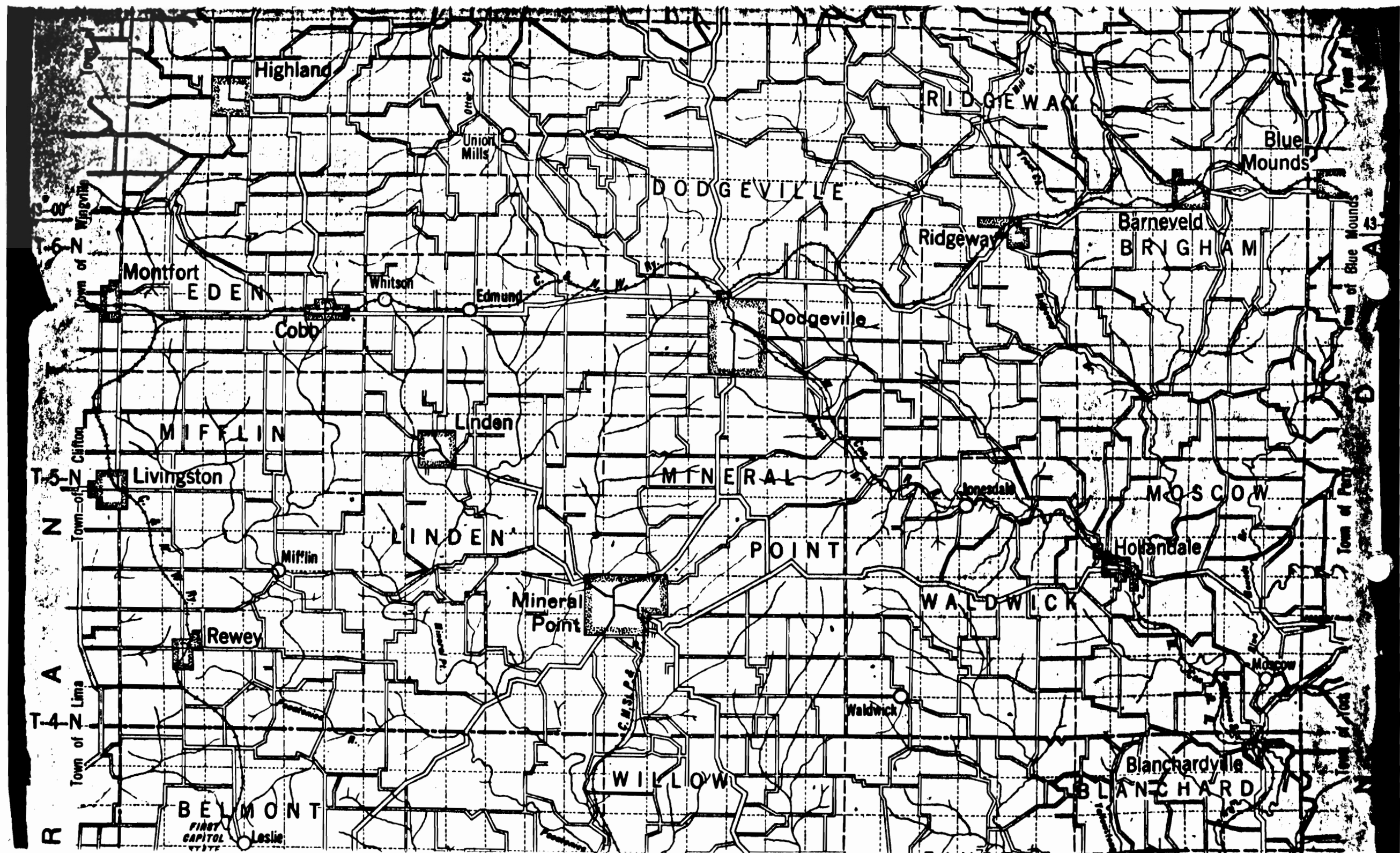


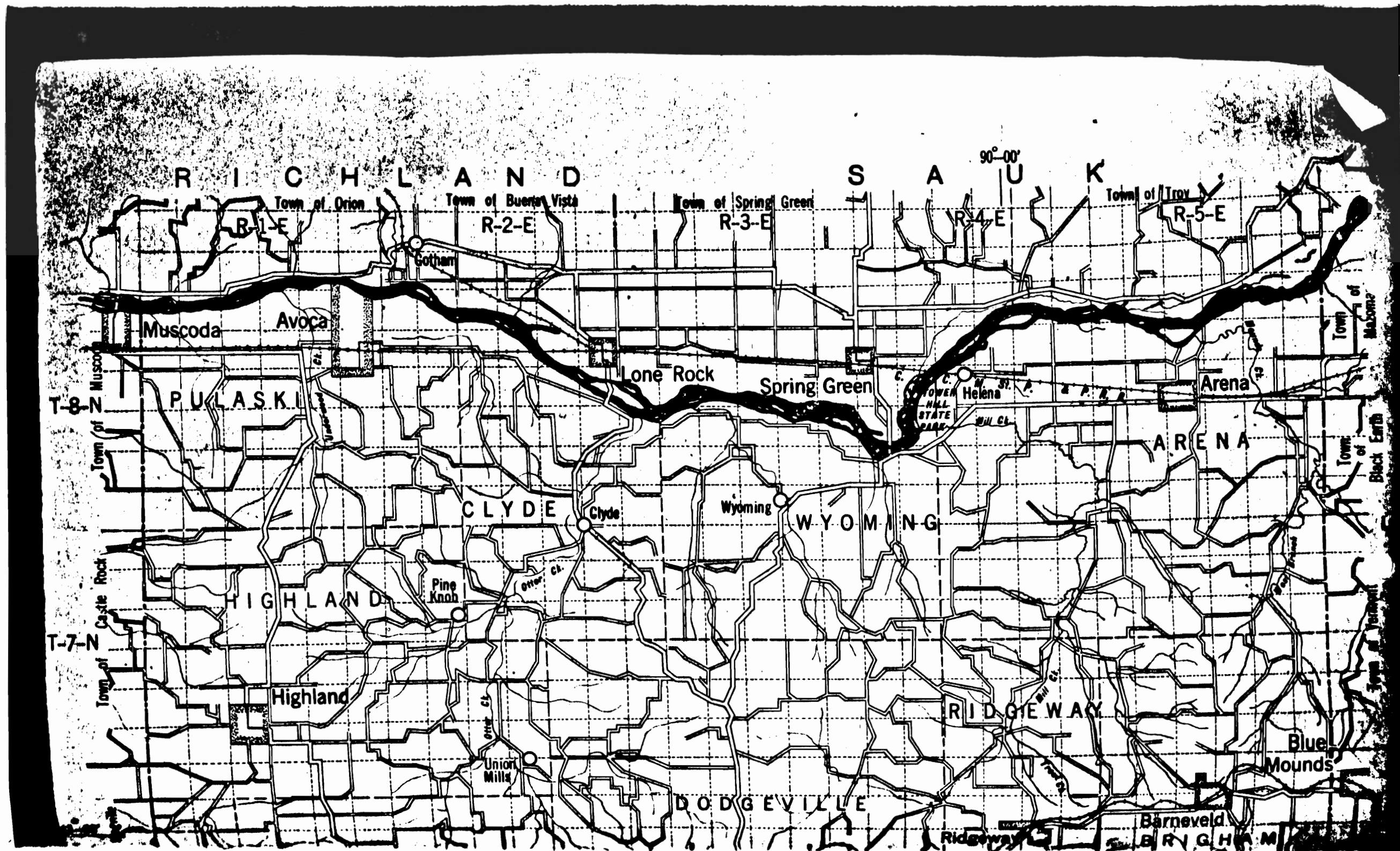


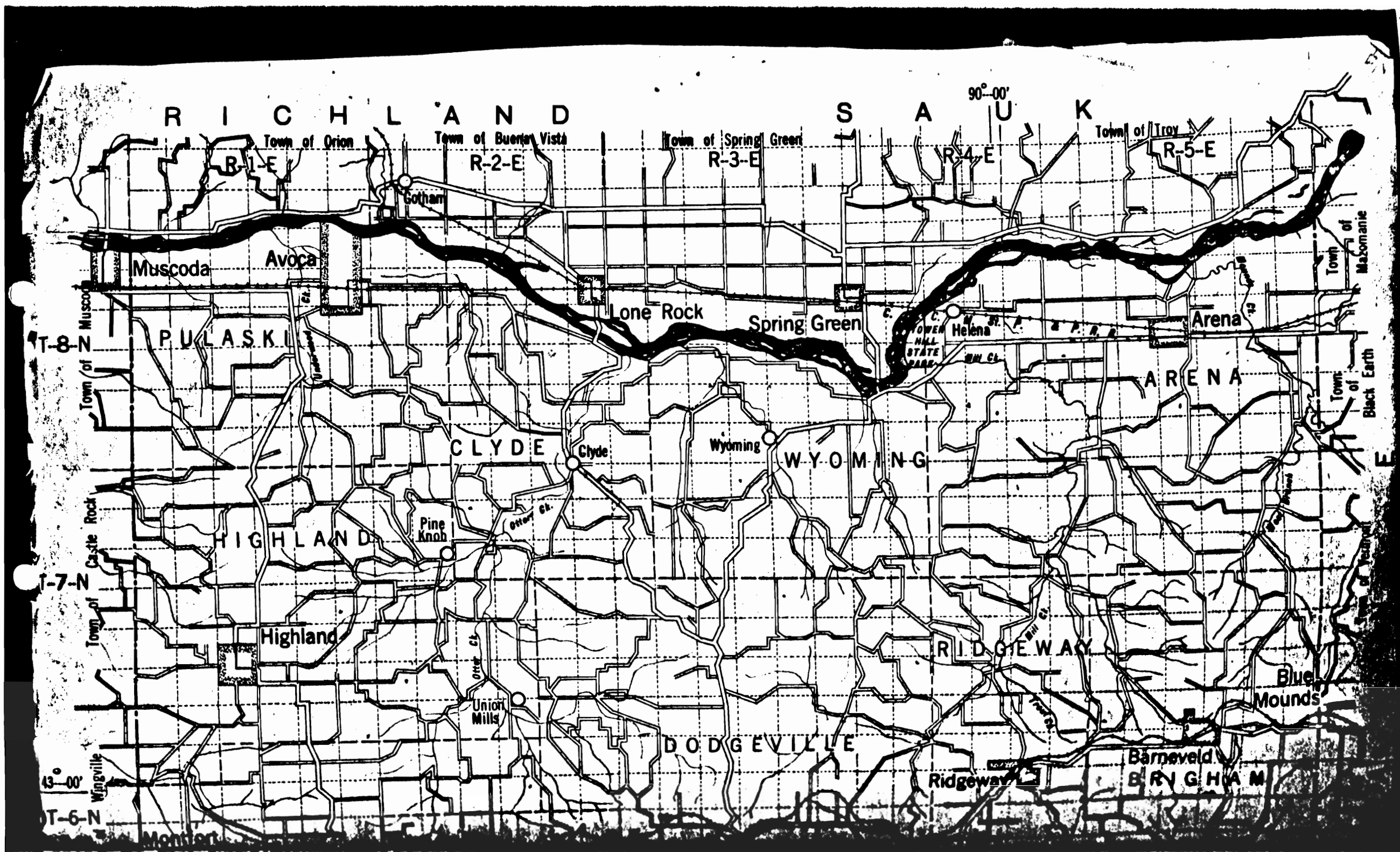


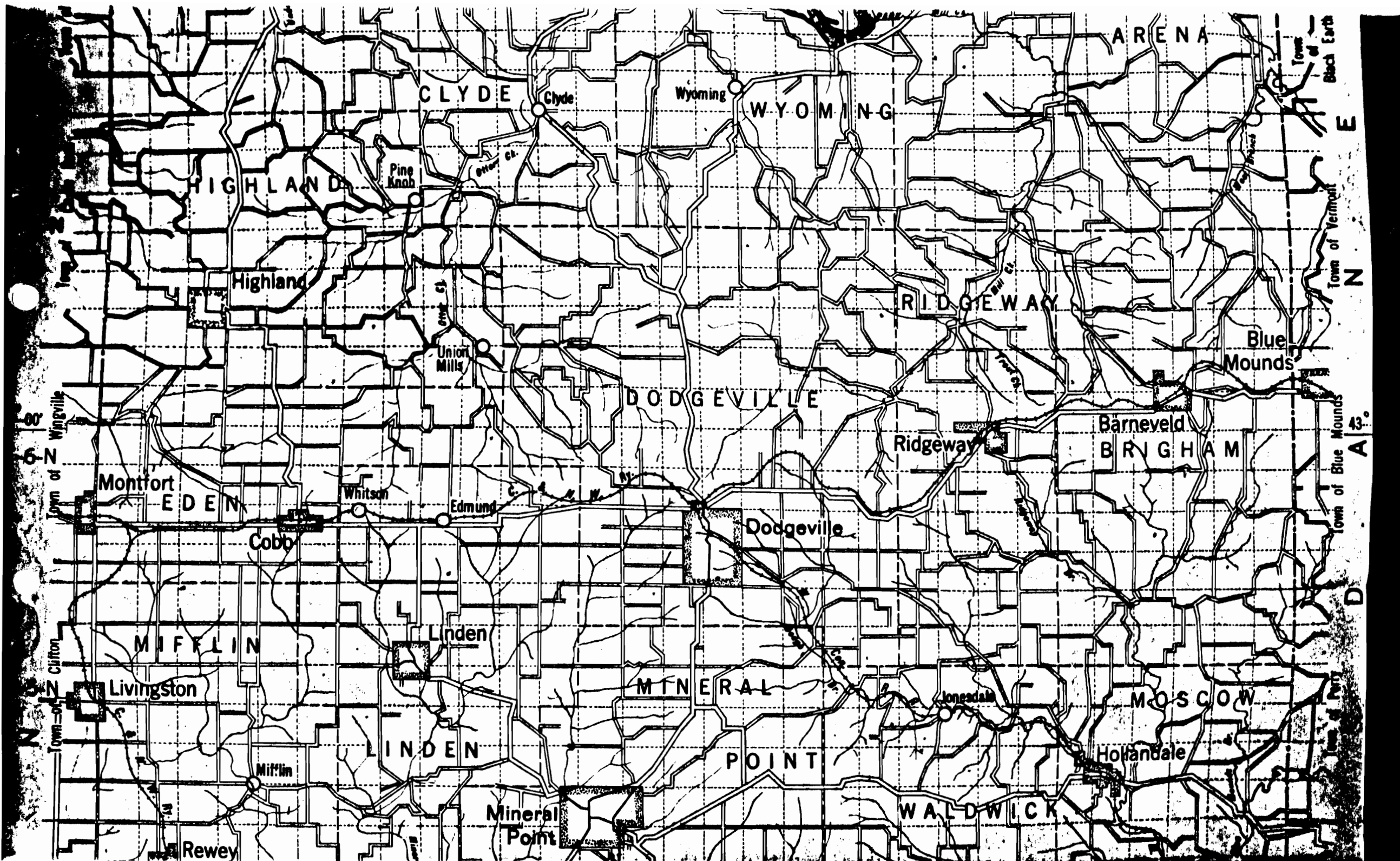


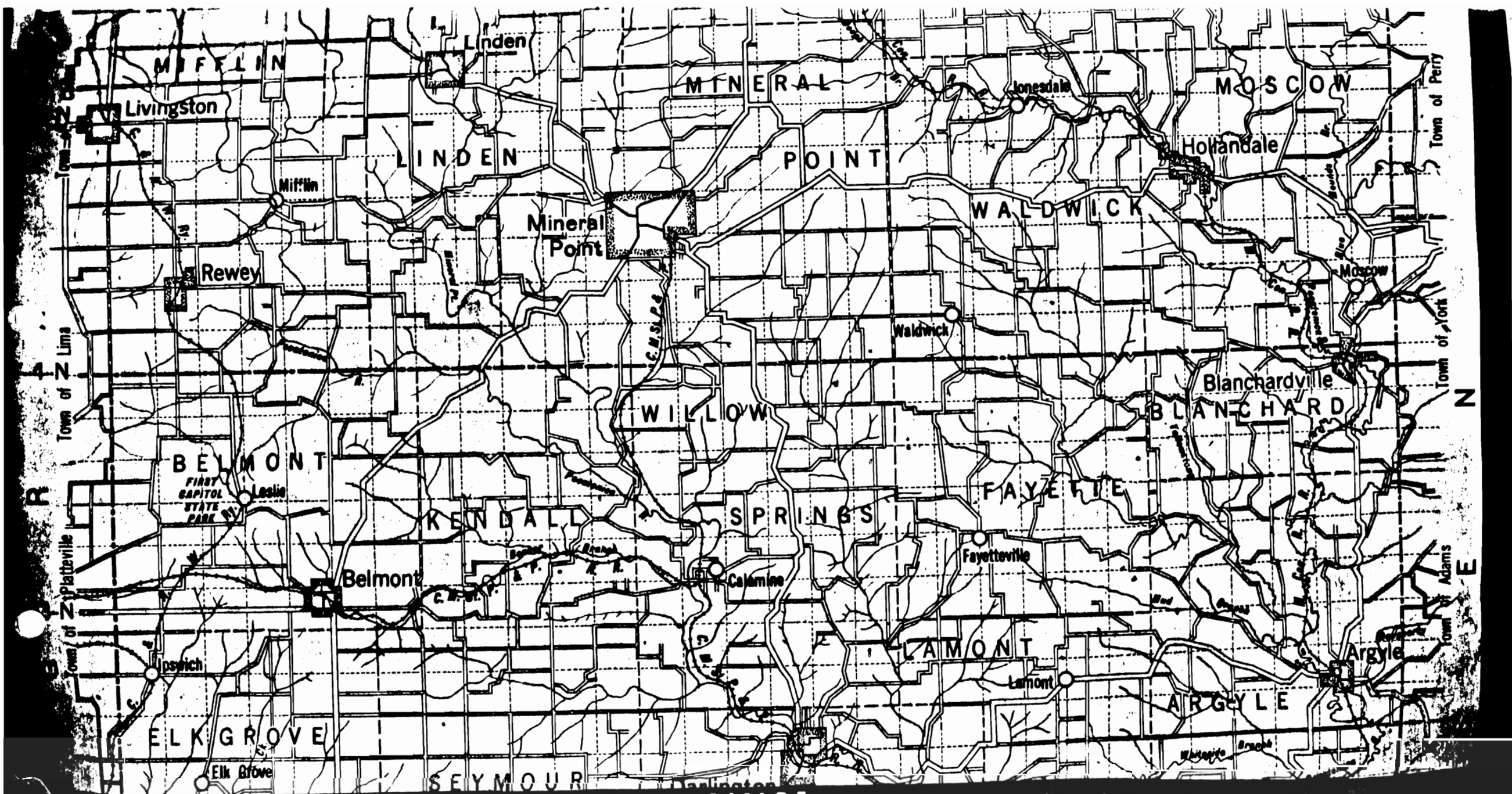
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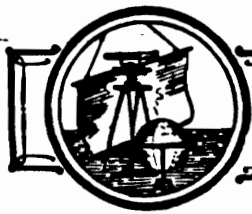








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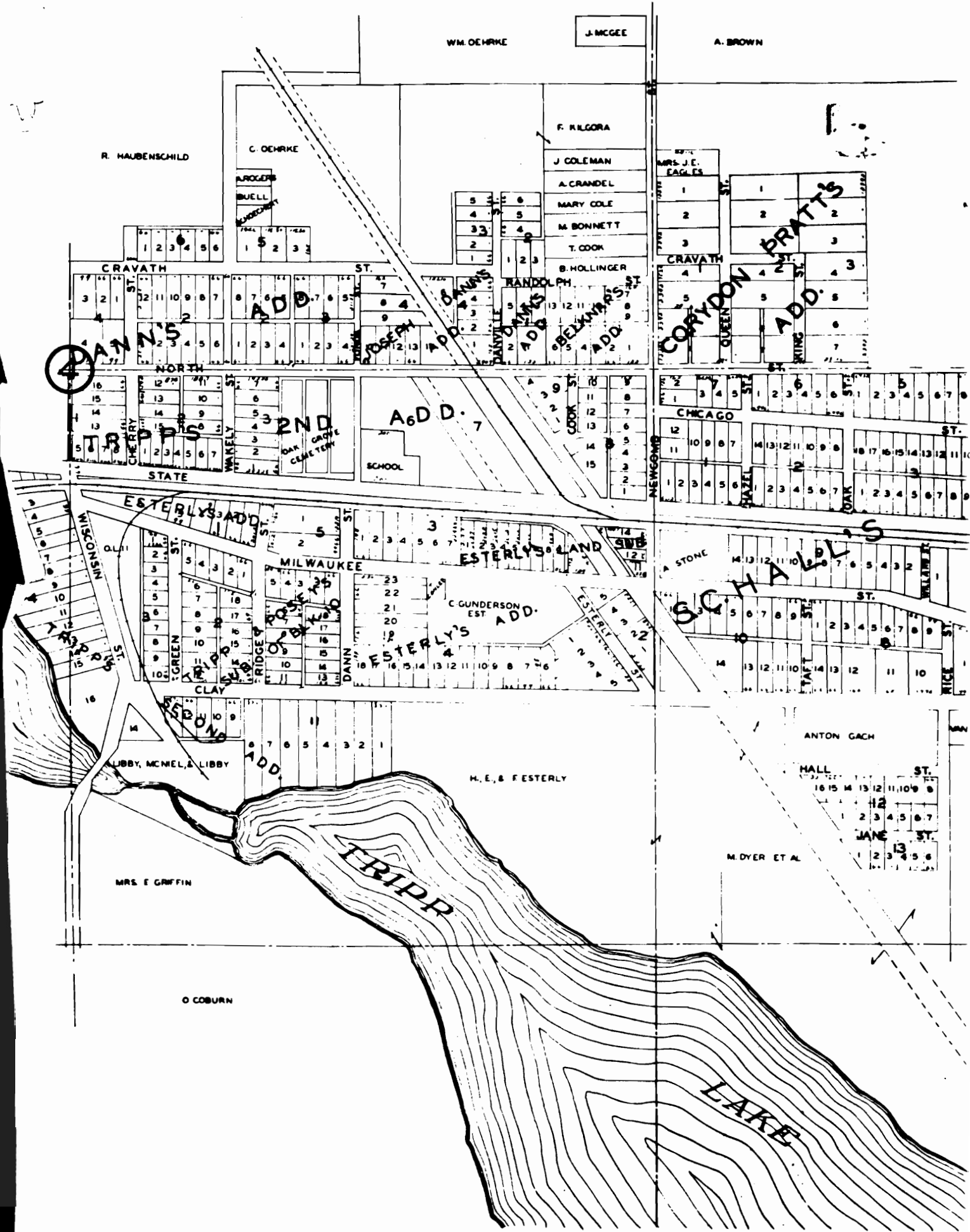
PART OF

WHITEWATER

Town 4 North Parts of Sec. 3 & 4 Range 15 East

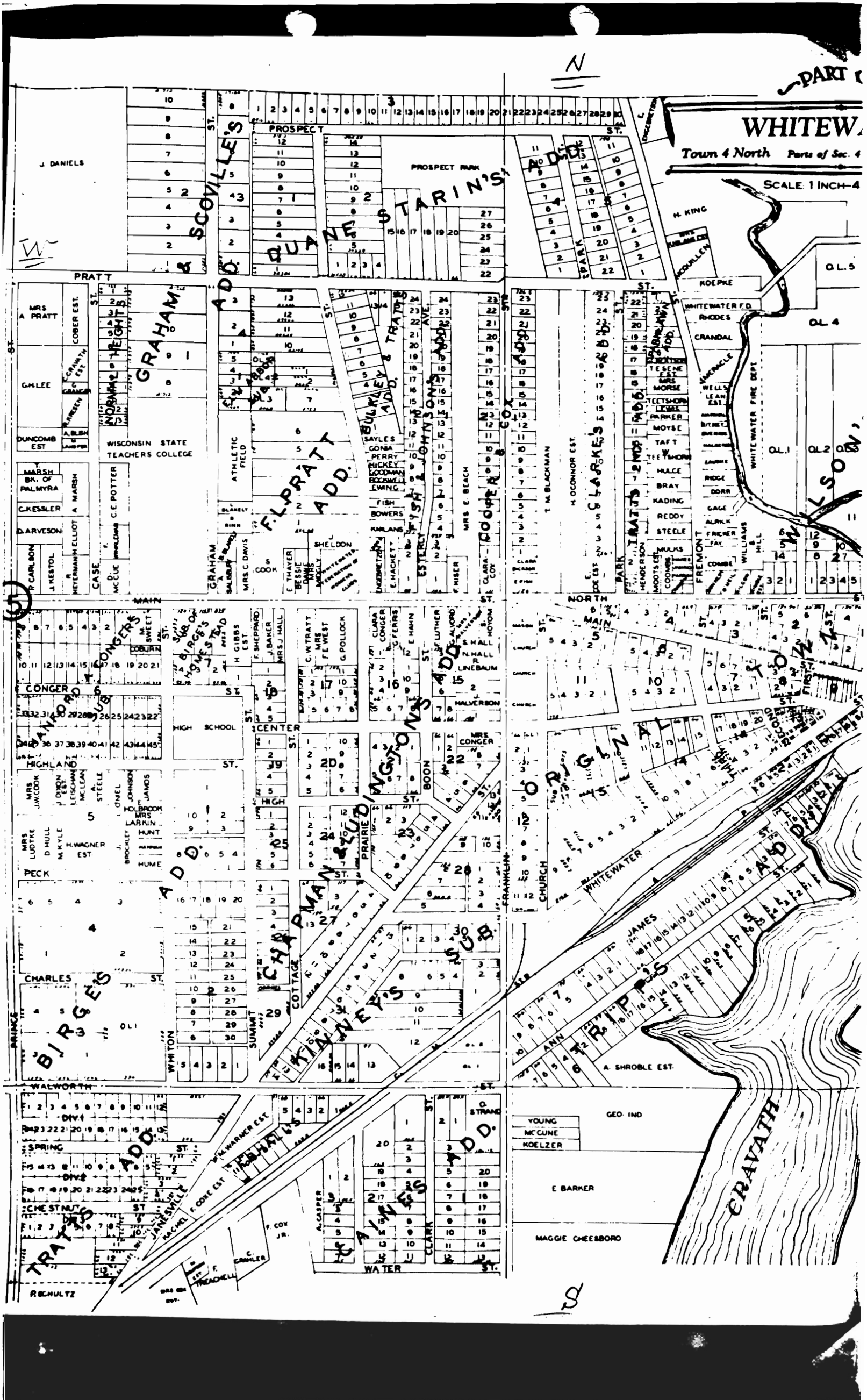


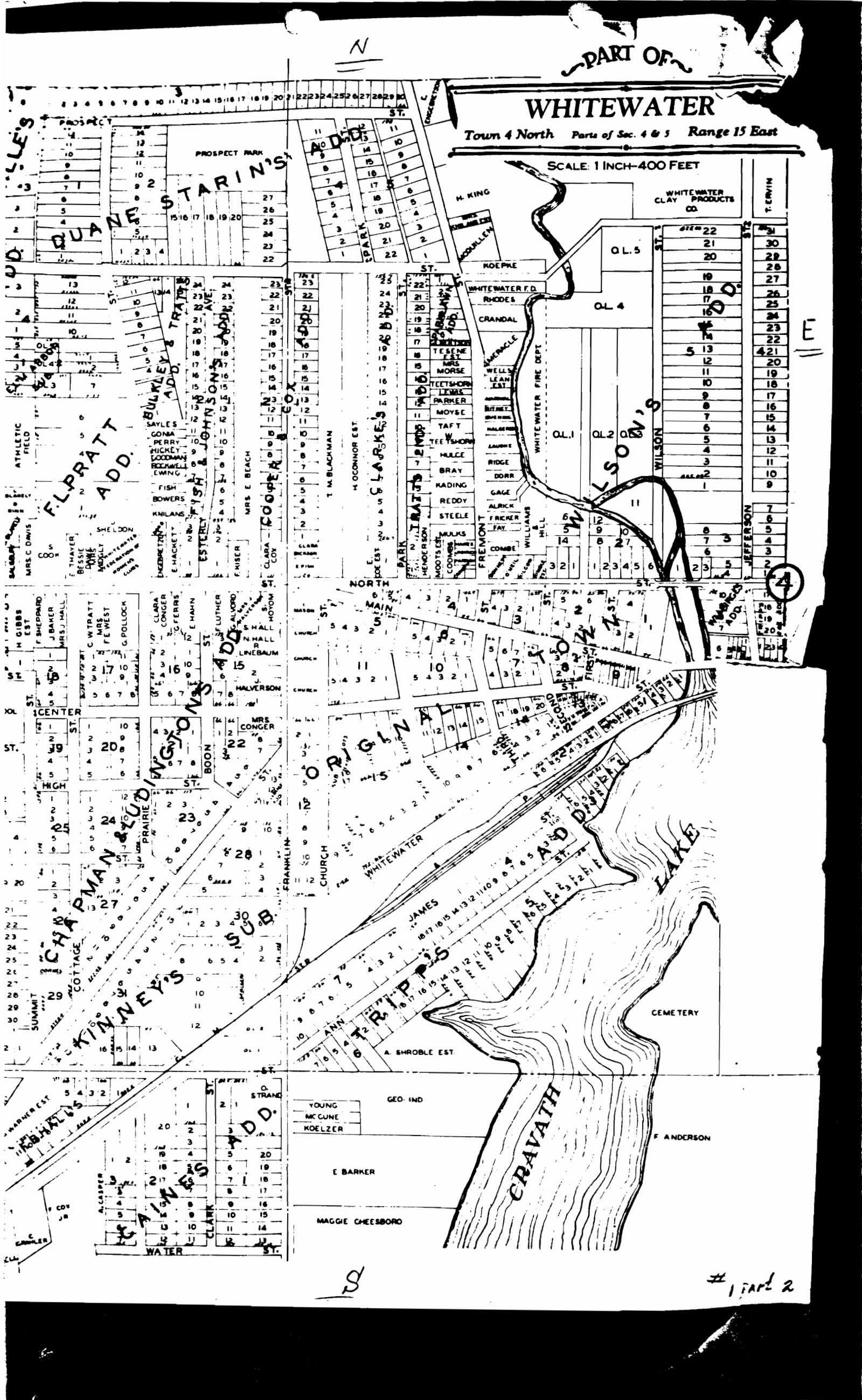
SCALE: 1 INCH=400 FEET



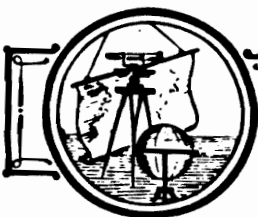
1 Part 1.

S





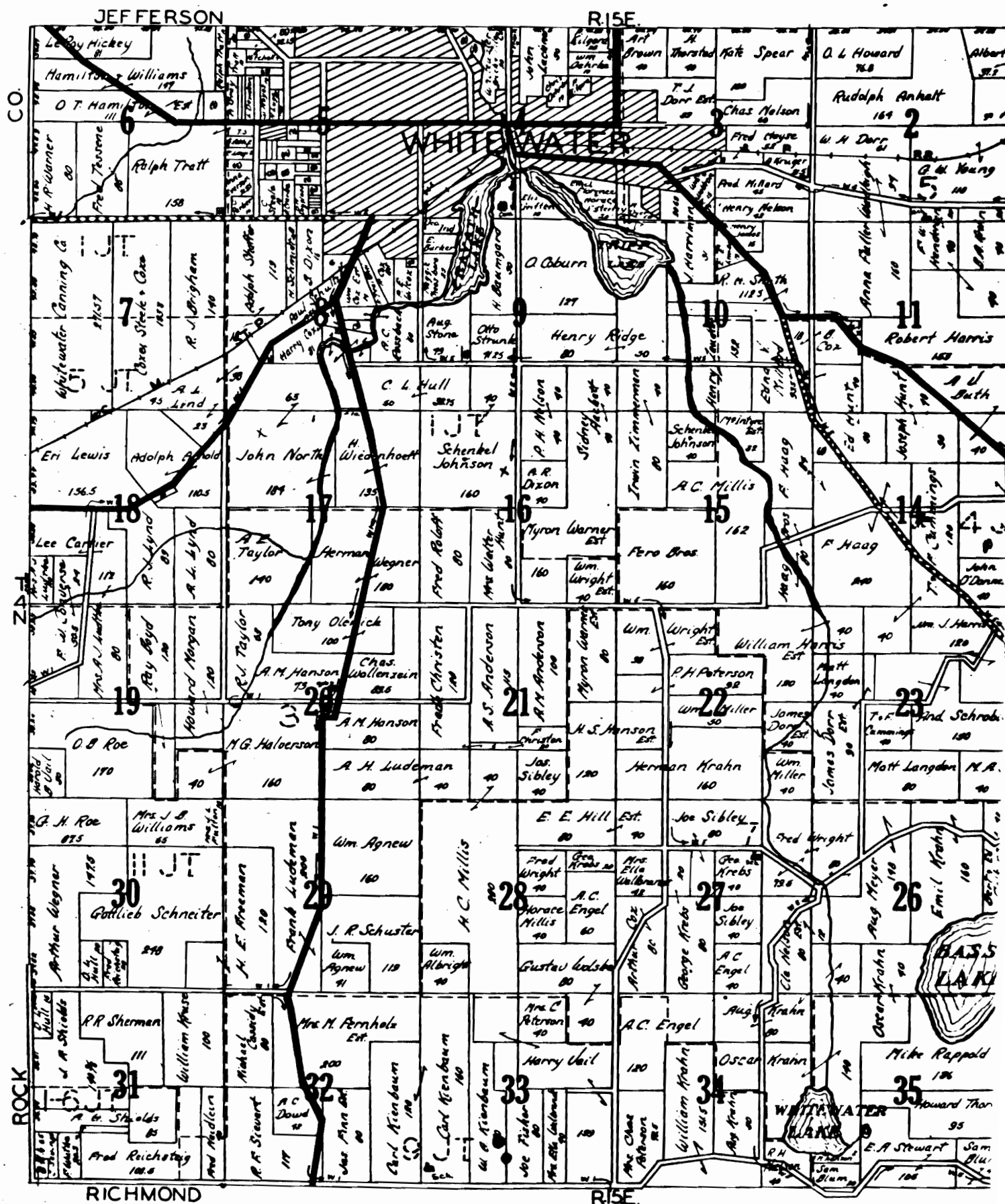
County All Roads
Other Gravel Roads
..... School Dist.



MAP OF
Whitewater Township
Town 4 North Range 15 East



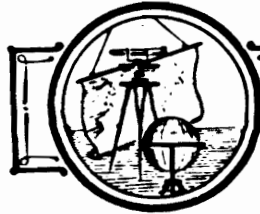
SCALE 2 INCHES = 1 MILE



List of Small Property Owners in this Township Shown on Map by Numbers:

No.	Name	Acres	No.	Name	Acres	No.	Name	Acres	No.	Name	Acres
1	P. B. Egan	2	11	M. B. Buss	1	21	James O. Dornell	1			
2	C. C. Egan	2	12	F. Buss	1	22	John J. Dornell	1			
3	H. Egan	2	13	H. Buss	1	23	Ed. J. Dornell	1			
4	Mrs. Fred Cooper	5.1	14	G. H. O. Hamilton	12	24	Whitewater Canning Co.	1			
5	W. J. Kyle	1	15	Albert M. Gray	12	25	Chas. B. Dornell Est.	1			
6	A. J. Anderson	1.5	16	W. H. Cox	2	26	L. C. Dornell Est.	1			
7	Frank Haltinger	7	17	C. M. Thorne	2	27	Paul Wendt	1			
8	Jim Morantz	22.5	18	Laura Wolf	4						

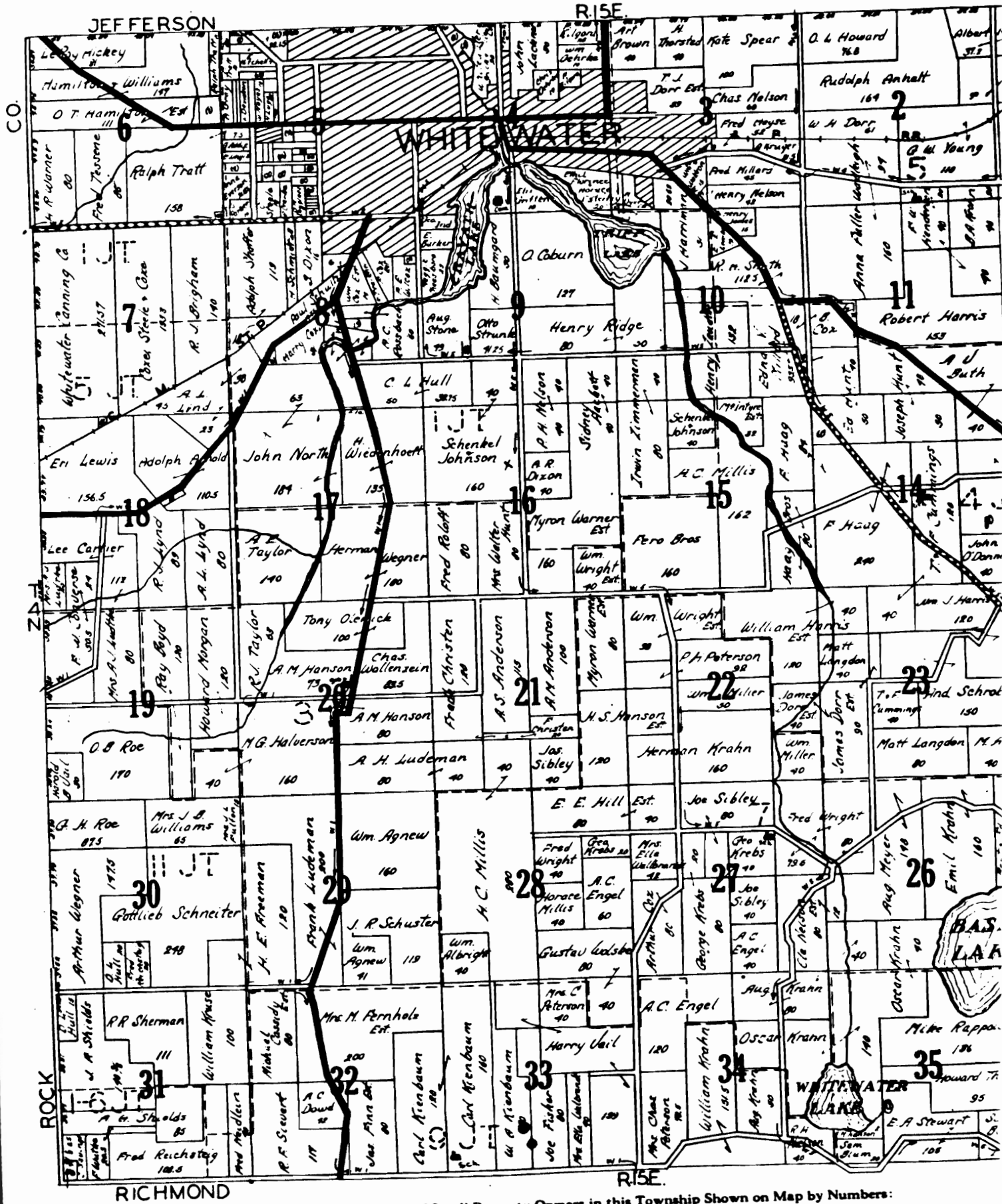
Legend
 County and State
 Other Unimproved Roads
 School Dist.



MAP OF
Whitewater Township
 Town 4 North
 Range 15 East

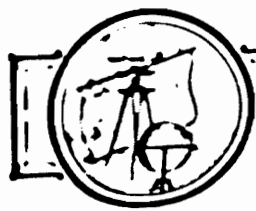


SCALE 2 INCHES 1 MILE



List of Small Property Owners in this Township Shown on Map by Numbers:

No.	Name	Acres	No.	Name	Acres	No.	Name	Acres	No.	Name	Acres
1	P. E. Egan	1	26	Mary Welch	1	31	M. Hays	1	36	James O. Dunning	1
2	W. C. Egan	1	27	Wm. A. Ritz	1	32	E. Biss	1	37	Wm. A. Dunning	1
3	H. Kutz	1	28	J. M. Egan	1	33	H. Kropf	1	38	Wm. A. Dunning	1
4	Mrs. Fred Cooper	1	29	J. C. Youngman	1	34	H. O. Hamilton	1	39	Wm. A. Dunning	1
5	W. J. Kutz	1	30	Adam Gunning	1	35	Alfred M. Gray	1	40	Wm. A. Dunning	1
6	A. S. Anderson	1	31	Geo. Dennis	1	36	S. W. H. Gray	1	41	Wm. A. Dunning	1
7	Frank Hildner	1	32	W. Walzer	1	37	E. M. Thorne	1	42	Wm. A. Dunning	1
8	Joe Morant	1	33	Laura Wolf	1	38	Paul Wenzel	1	43	Wm. A. Dunning	1



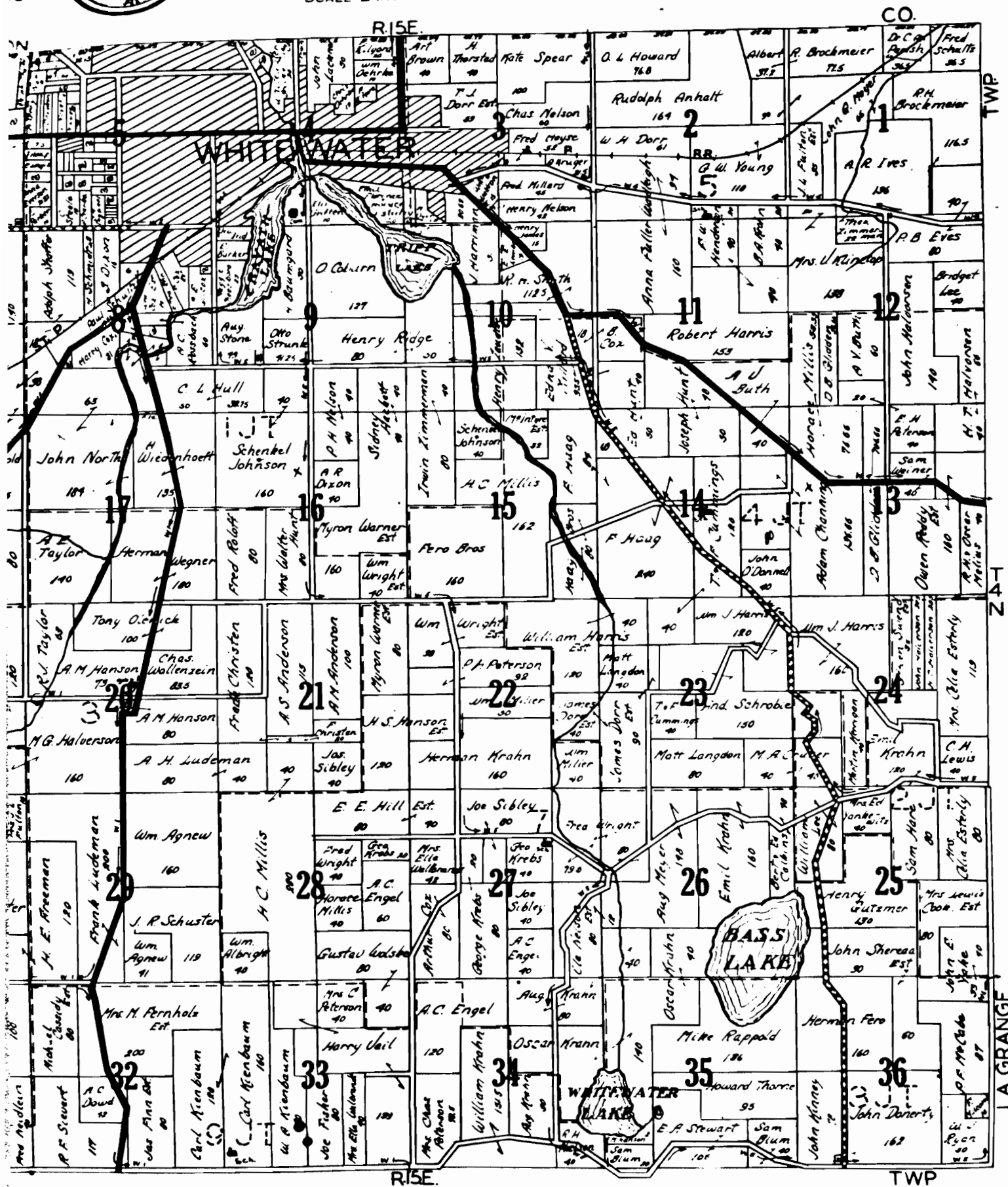
MAP OF
Whitewater Township
Town 4 North Range 15 East



1/2 in.
1/4 in.
1/8 in.
1/16 in.
1/32 in.

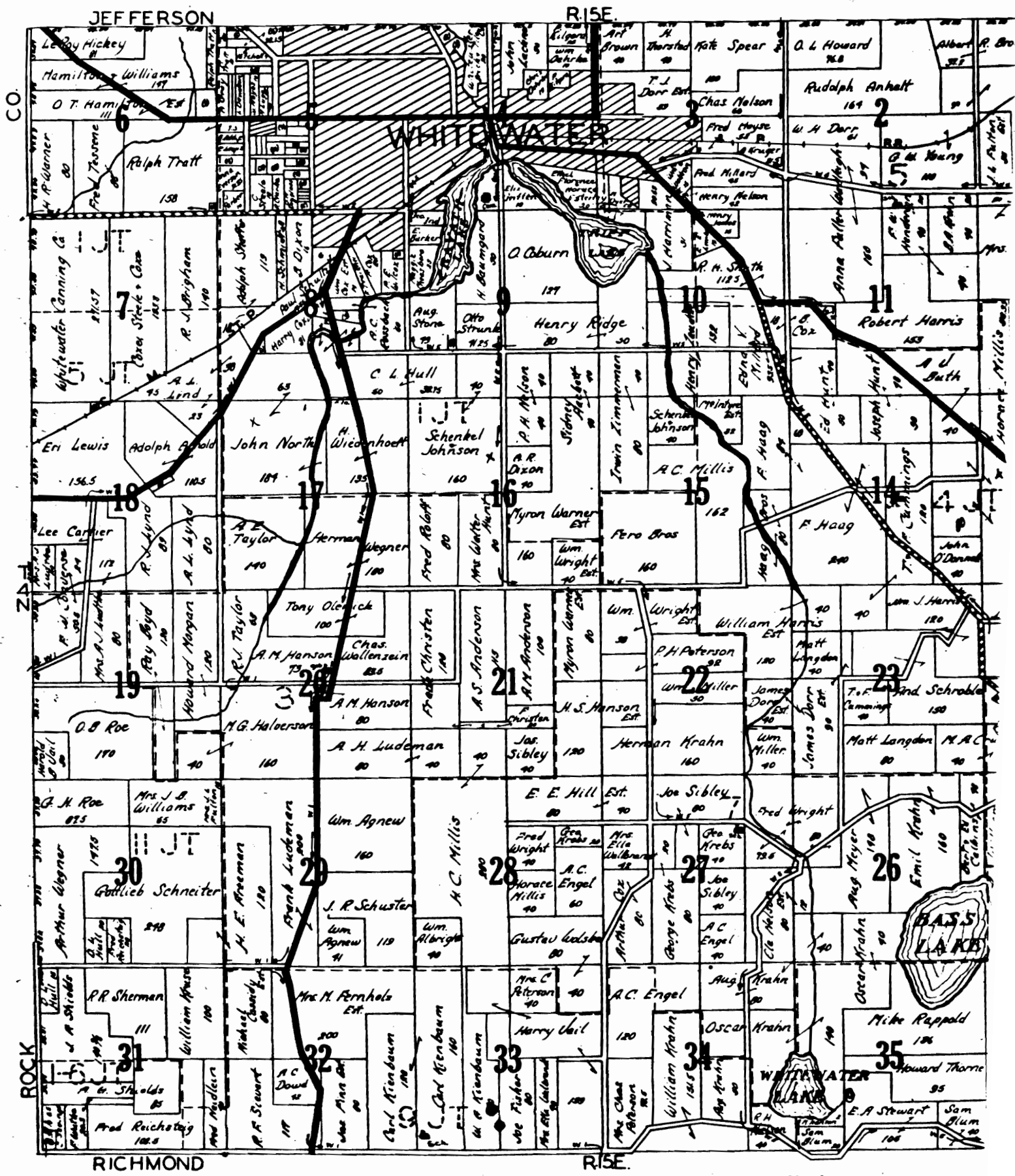
Page

SCALE 2 INCHES 1 MILE



List of Small Property Owners in this Township Shown on Map by Numbers:

No.	Name	Acres	No.	Name	Acres	No.	Name	Acres	No.	Name	Acres
1	W. E. Felt	1/2	11	M. W. Felt	1/2	21	J. E. Felt	1/2	31	J. E. Felt	1/2
2	W. E. Felt	1/2	12	M. W. Felt	1/2	22	J. E. Felt	1/2	32	J. E. Felt	1/2
3	W. E. Felt	1/2	13	M. W. Felt	1/2	23	J. E. Felt	1/2	33	J. E. Felt	1/2
4	W. E. Felt	1/2	14	M. W. Felt	1/2	24	J. E. Felt	1/2	34	J. E. Felt	1/2
5	W. E. Felt	1/2	15	M. W. Felt	1/2	25	J. E. Felt	1/2	35	J. E. Felt	1/2
6	W. E. Felt	1/2	16	M. W. Felt	1/2	26	J. E. Felt	1/2	36	J. E. Felt	1/2
7	W. E. Felt	1/2	17	M. W. Felt	1/2	27	J. E. Felt	1/2			
8	W. E. Felt	1/2	18	M. W. Felt	1/2	28	J. E. Felt	1/2			
9	W. E. Felt	1/2	19	M. W. Felt	1/2	29	J. E. Felt	1/2			
10	W. E. Felt	1/2	20	M. W. Felt	1/2	30	J. E. Felt	1/2			



List of Small Property Owners in this Township Shown on Map by Numbers:

No.	Name	Acres	No.	Name	Acres	No.	Name	Acres	No.	Name	Acres
1	P. B. Eves	1	14	M. Mass	1	27	James O. Hamilton	1	30	James O. Hamilton	1
2	K. C. Eyles	1	15	F. Biss	1	28	John Johnson	10	31	Matthew M. Lee	1
3	H. Kutz	1	16	H. Kropf	1	29	White Water Canning Co.	1	32	White Water Canning Co.	1
4	Mrs. Fred Casper	5.1	17	K. H. O. Hamilton	12	33	W. H. Cox	1	34	W. H. Cox	1
5	W. J. Kyle	4	18	Albert M. Gray	1	35	C. M. Thorne	1	36	C. M. Thorne	1
6	A. S. Anderson	1.4	19	W. H. Cox	1	37	Paul Wenzel	1	38	Paul Wenzel	1
7	Frank Hollings	7	20	C. M. Thorne	1						
8	Jim Mortuary	22.5	21	Laura Witt	4						



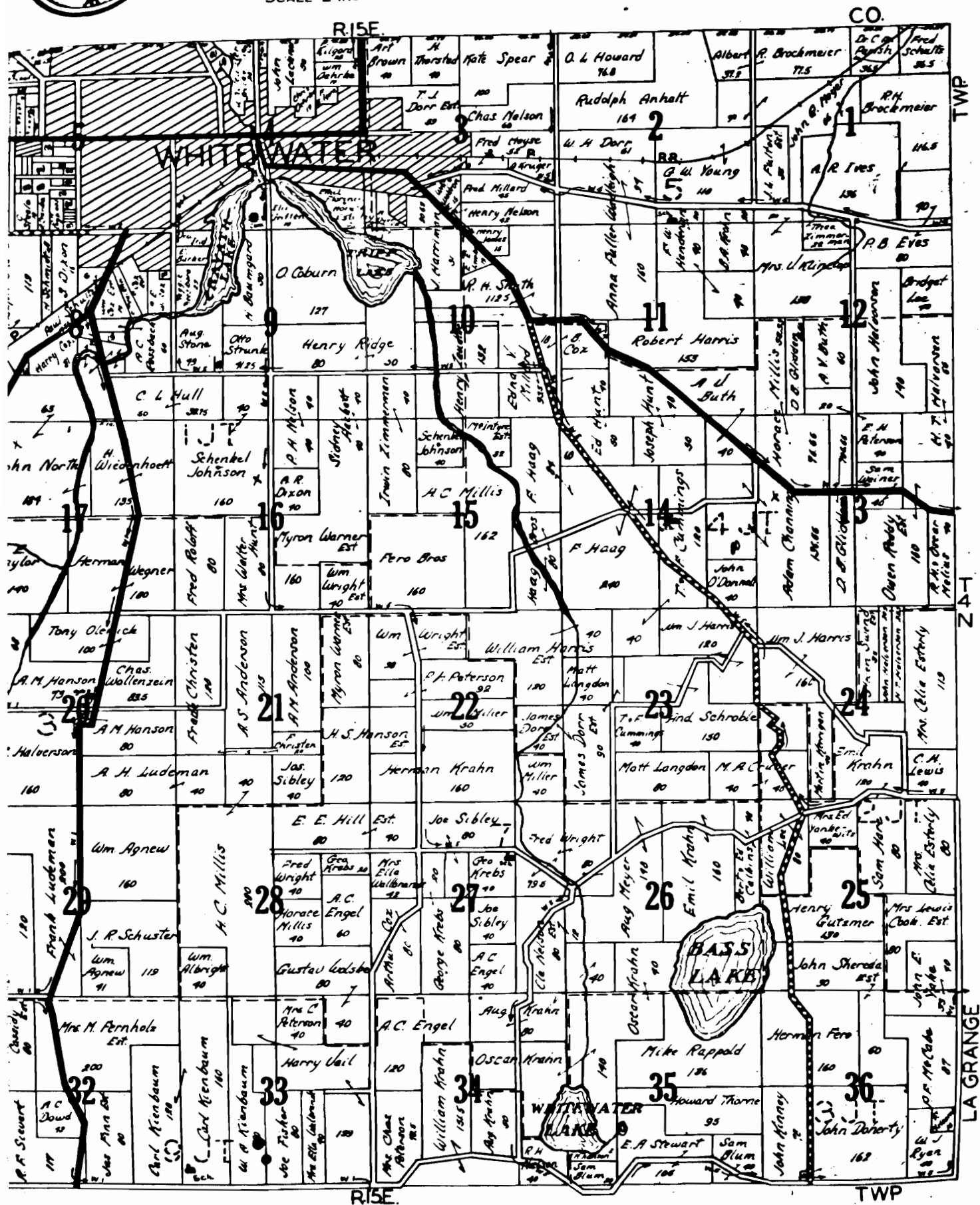
MAP OF
Whitewater Township
Town 4 North
Range 15 East



Scale
2 in. = 1 mi.
1 in. = 1/2 mi.
1/2 in. = 1/4 mi.
1/4 in. = 1/8 mi.

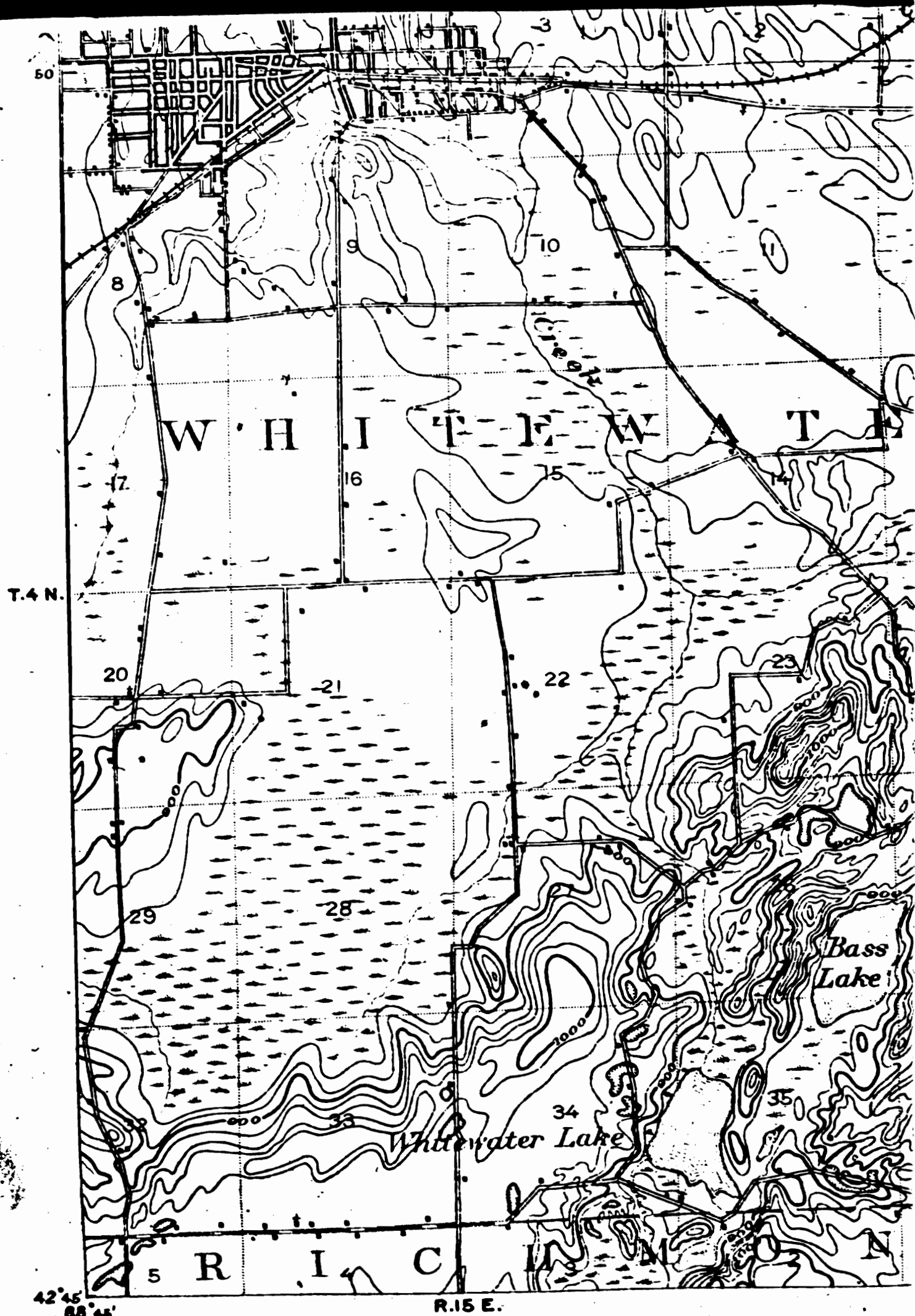
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SCALE 2 INCHES 1 MILE



List of Small Property Owners in this Township Shown on Map by Numbers:

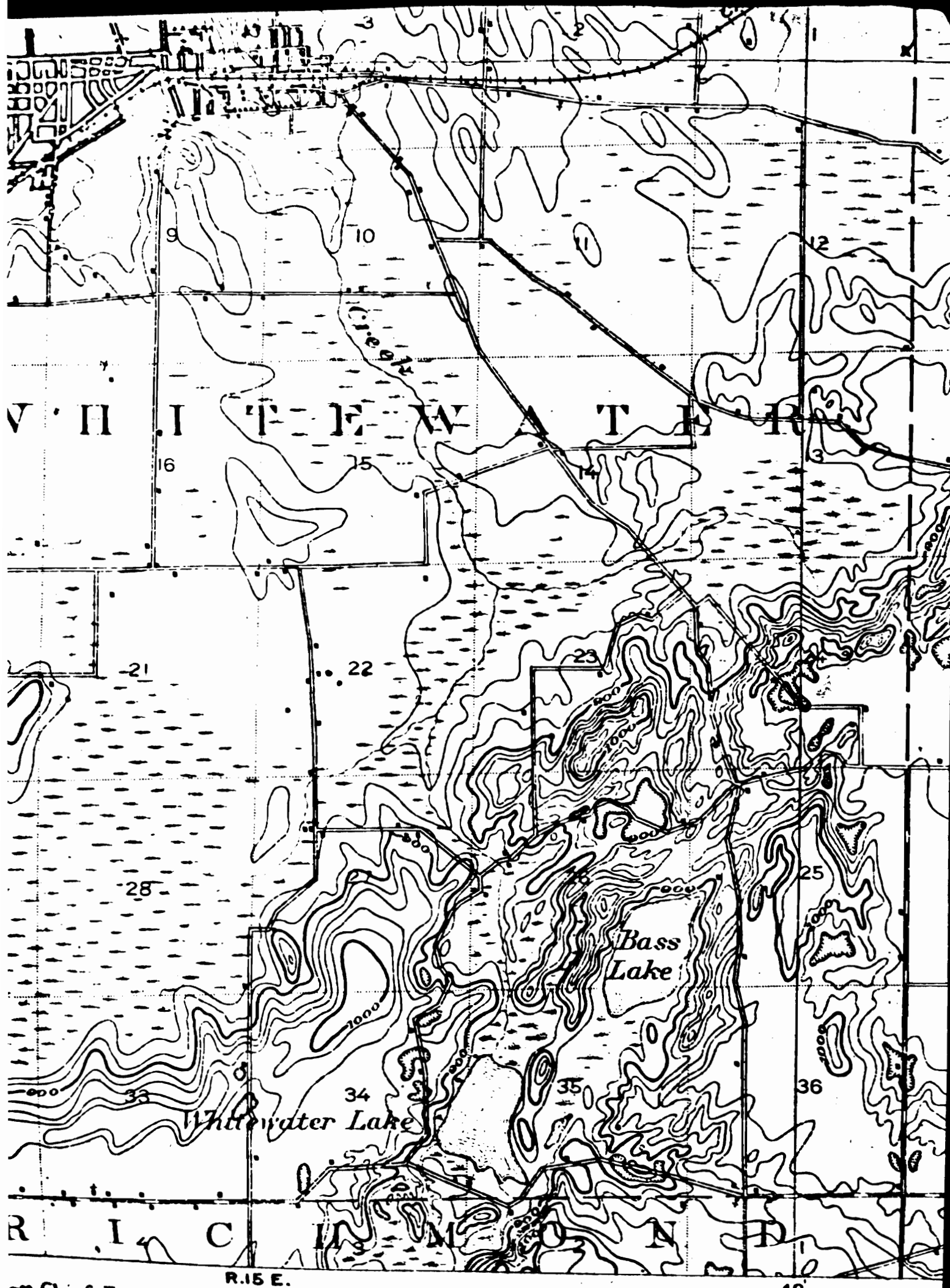
No.	Name	Acres	No.	Name	Acres	No.	Name	Acres	No.	Name	Acres
1	P. B. Eves	1	17	Mary Welch	1	33	M. Marx	1	19	James O. Donnell	1
2	H. C. Eves	1	18	John A. Ritz	1	34	F. Blue	1	20	John J. Johnson	1
3	H. C. Eves	1	19	J. M. Tice	1	35	H. Kopp	1	21	Matthew McLean	1
4	Wm. Fred Cooper	1	20	J. C. Younghouse	1	36	H. O. Hamilton	1	22	Whitewater Canning	1
5	W. J. Kyle	1	21	Adrian Channing	1	1	Albert M. Gray	1	23	W. H. Cox	1
6	A. S. Anderson	1	22	Geo. Dennis	1	2	S. W. H. Cox	1	24	Wm. H. Bromley Est.	1
7	Frank Hollings	1	23	W. Walmer	1	3	C. M. Thorne	1	25	L. C. Litter Est.	1
8	Sam. Mearns	1	24	Laura Witt	1	4	Paul Wendt	1			



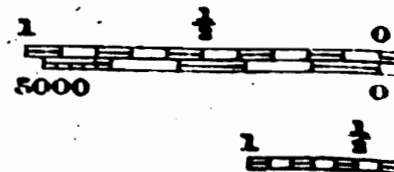
(Shapiro) 88°45'

Henry Gannett, Chief Topographer.
 Jno. H. Renshaw, Geographer in charge.
 Triangulation by the U.S. Coast and Geodetic and Lake Surveys.
 Topography by Van. H. Manning Jr.
 Surveyed in 1889
 Revised in 1903 by H.L. McDonald.

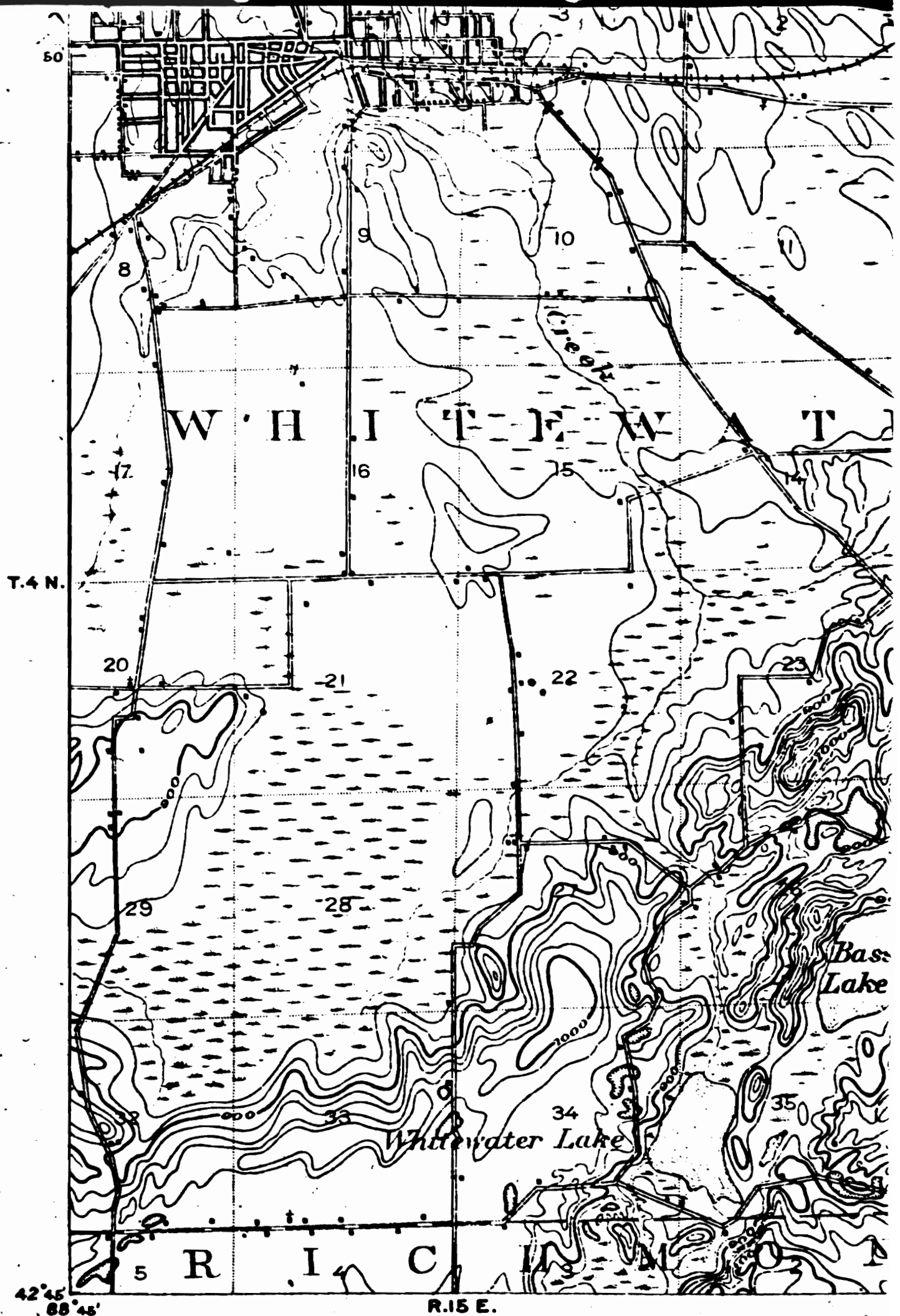
3



on Chief Topographer.
 new. Geographer in charge.
 on by the U. S. Coast and Geodetic and Lake Surveys.
 by Van. H. Manning Jr.
 ed in 1889
 1903 by H. L. McDonald.

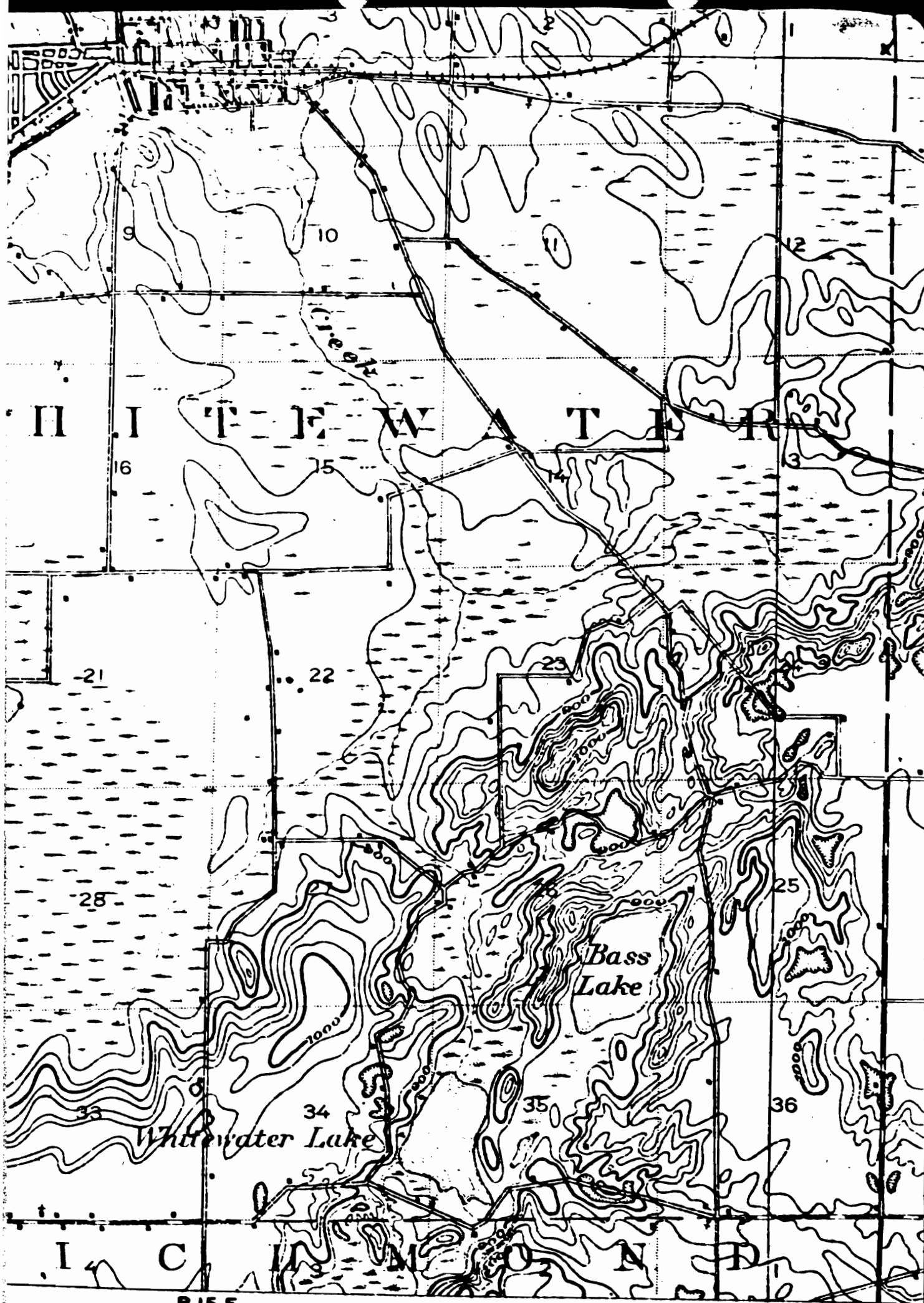


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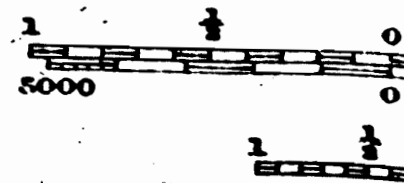


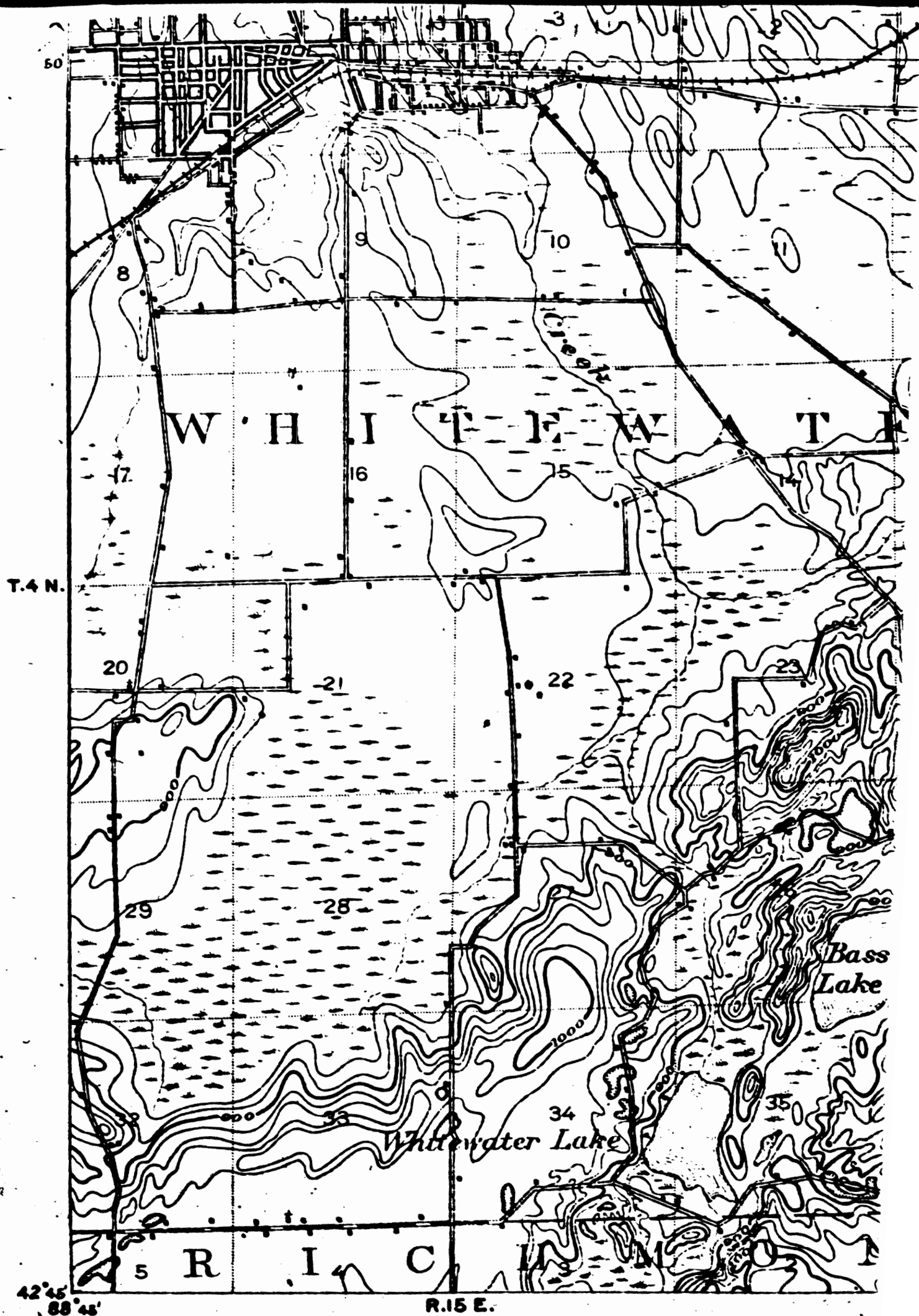
Shopiere/

42°45' 88°45'
 Henry Gannett, Chief Topographer.
 Jno. H. Renshaw, Geographer in charge.
 Triangulation by the U. S. Coast and Geodetic and Lake Surveys.
 Topography by Van. H. Manning Jr.
 Surveyed in 1889
 Revised in 1903 by H. L. McDonald.



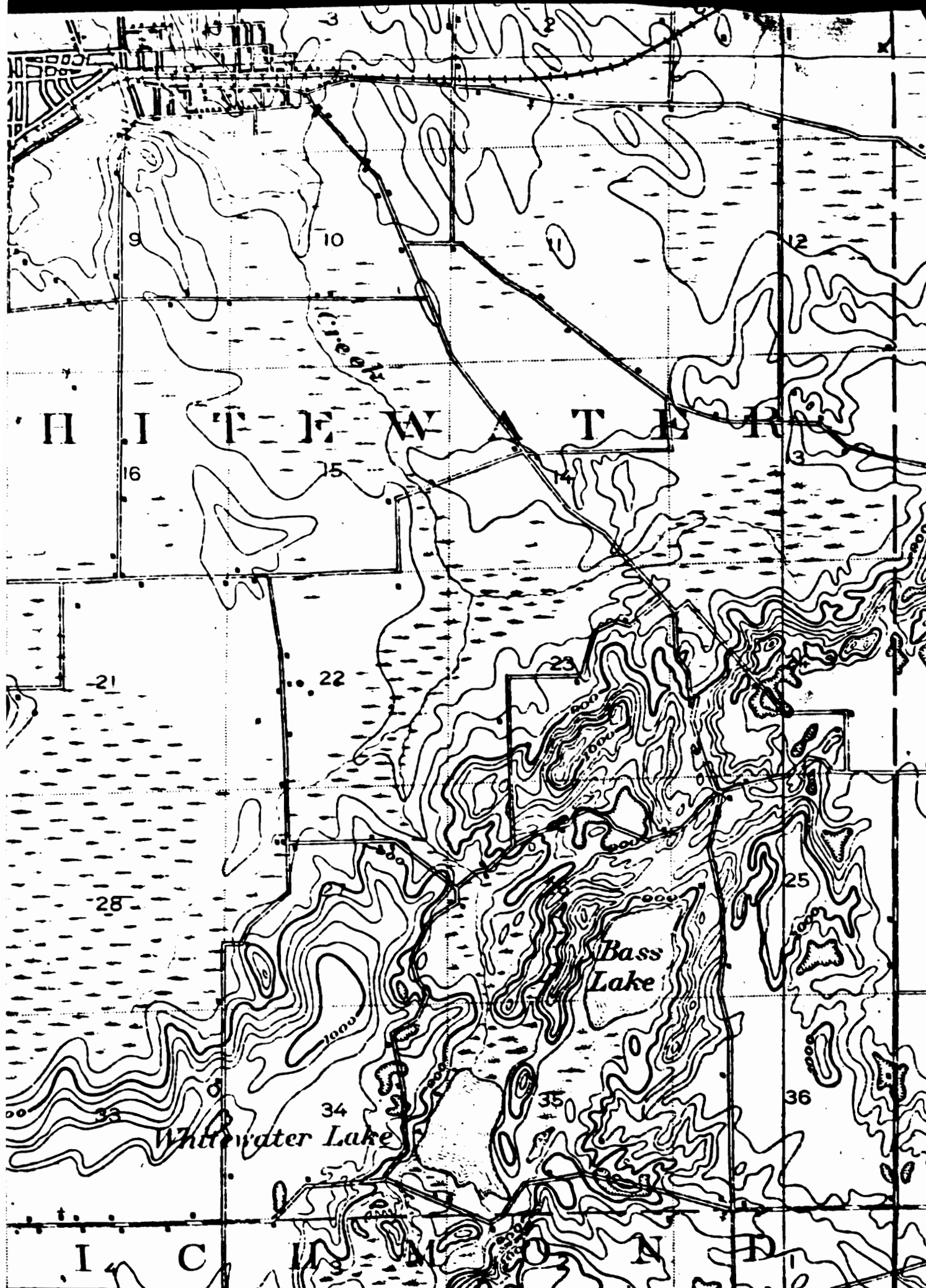
Chief Topographer.
 Geographer in charge.
 the U.S. Coast and Geodetic and Lake Surveys.
 in H. Manning Jr.
 in 1889
 by H.L. McDonald.





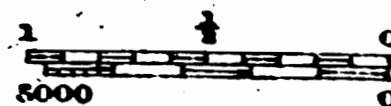
Shopiere/

Henry Gannett, Chief Topographer.
 Jno. H. Renshaw, Geographer in charge.
 Triangulation by the U. S. Coast and Geodetic and Lake Surveys.
 Topography by Van. H. Manning Jr.
 Surveyed in 1889
 Revised in 1903 by H. L. McDonald.



R.15 E.

Chief Topographer.
 e. Geographer in charge.
 by the U.S. Coast and Geodetic and Lake Surveys.
 Van. H. Manning Jr.
 1 in 1889
 3 by H.L. McDonald.

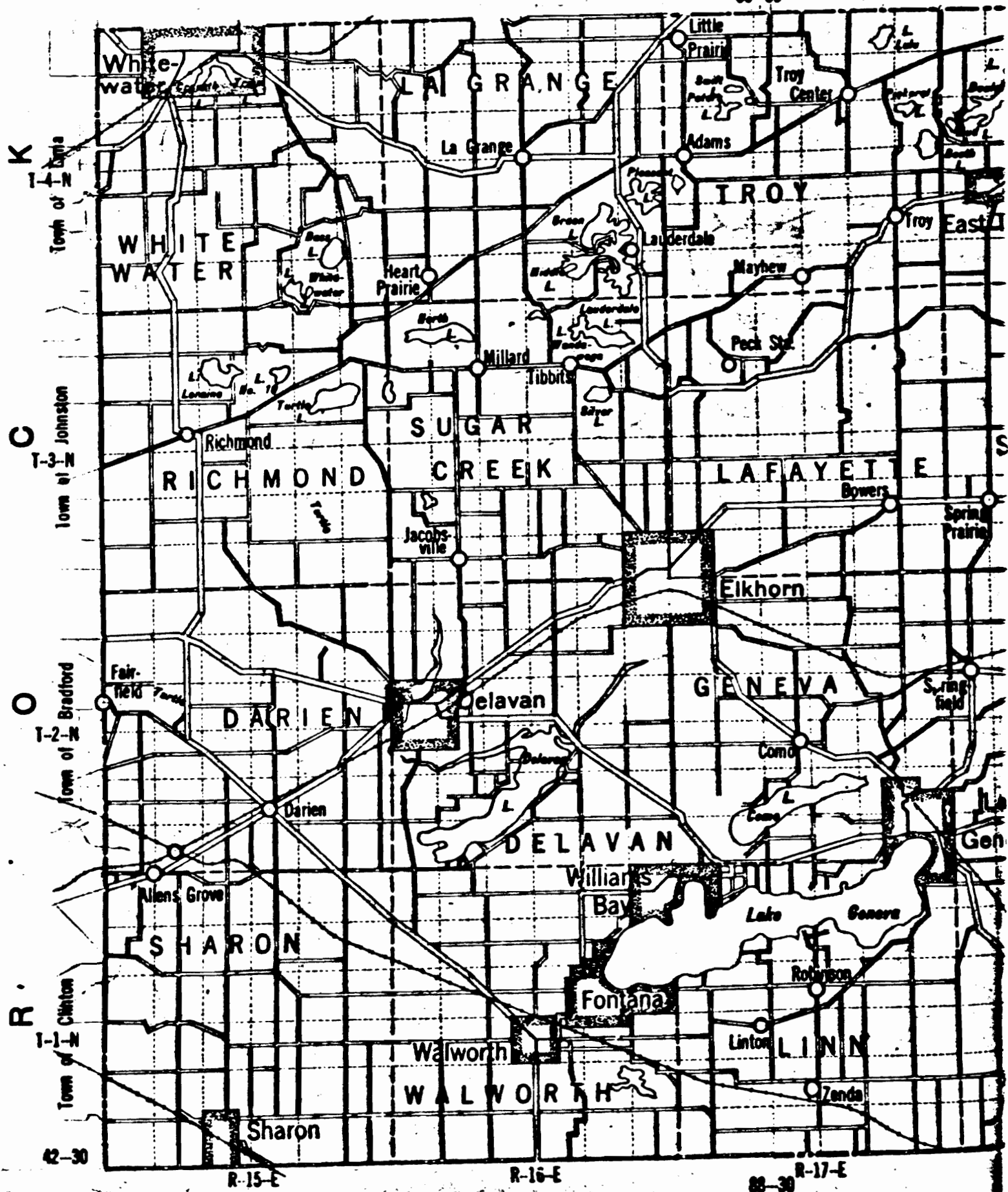


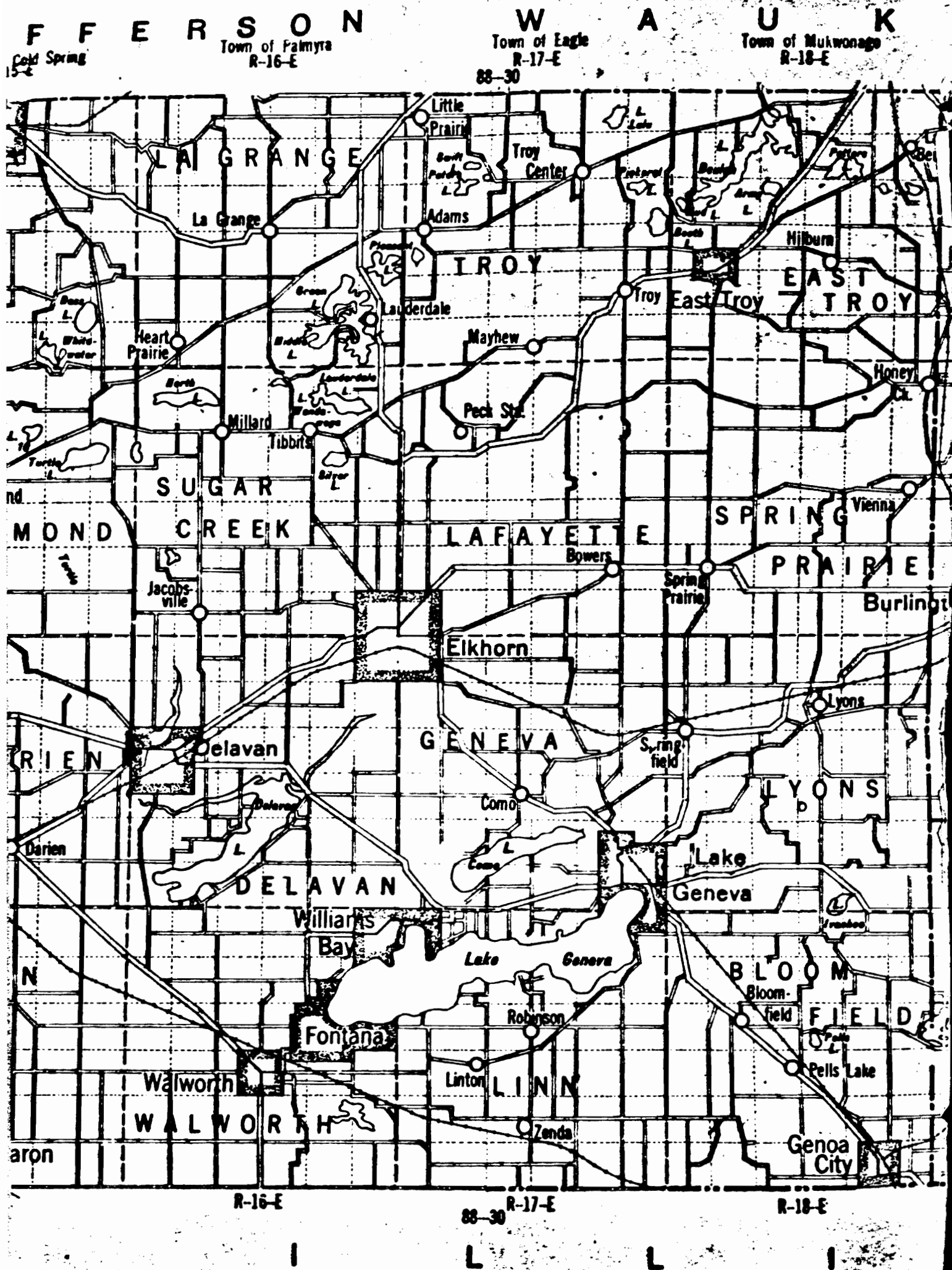
J E F F E R S O N

Town of Cold Spring
R-15-E

Town of Palmyra
R-16-E

Town of Eagle
R-17-E
88-30



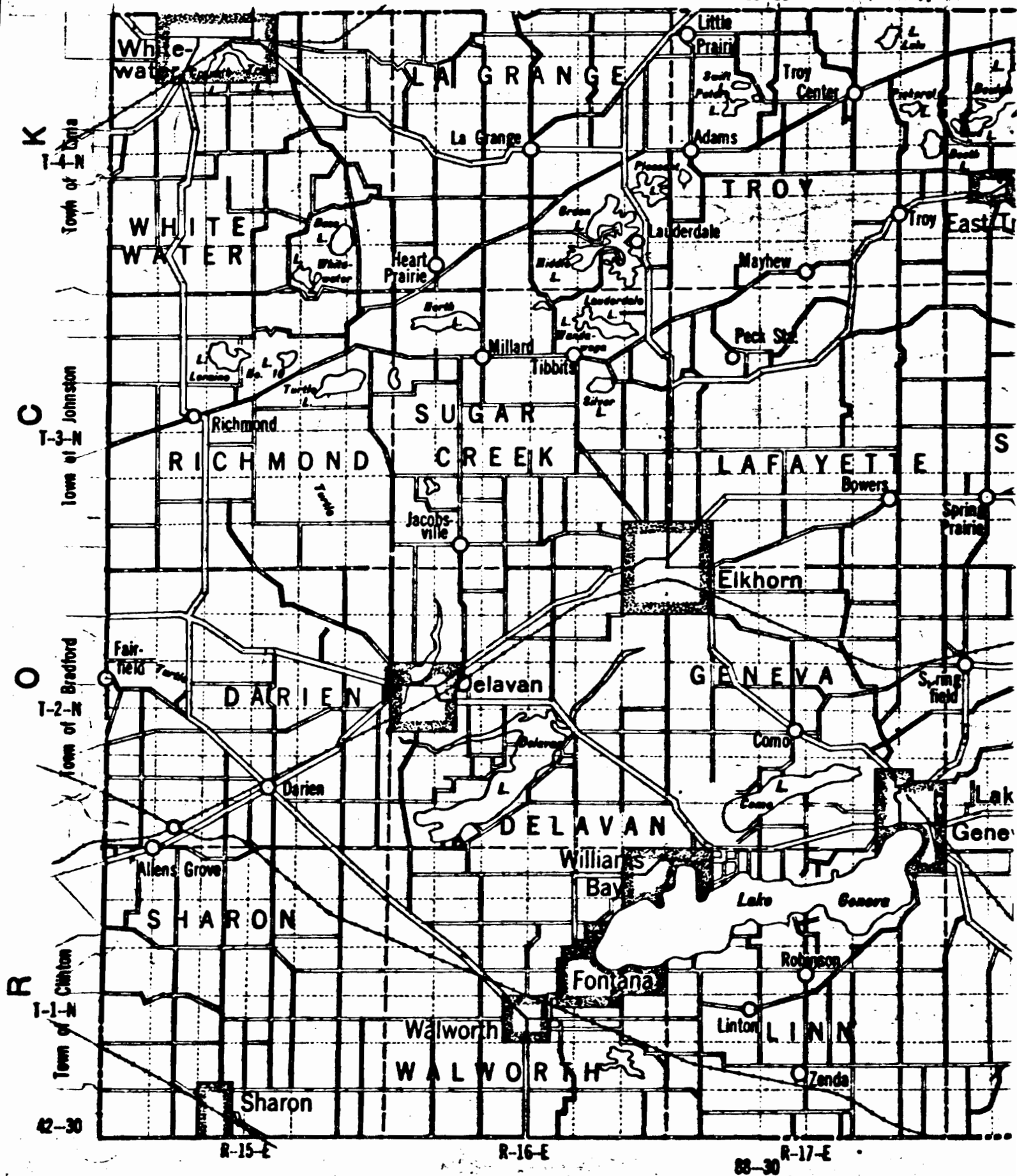


JEFFERSON

Town of Cold Spring
R-15-E

Town of Palmyra
R-16-E

Town of Eagle
R-17-E
88-30

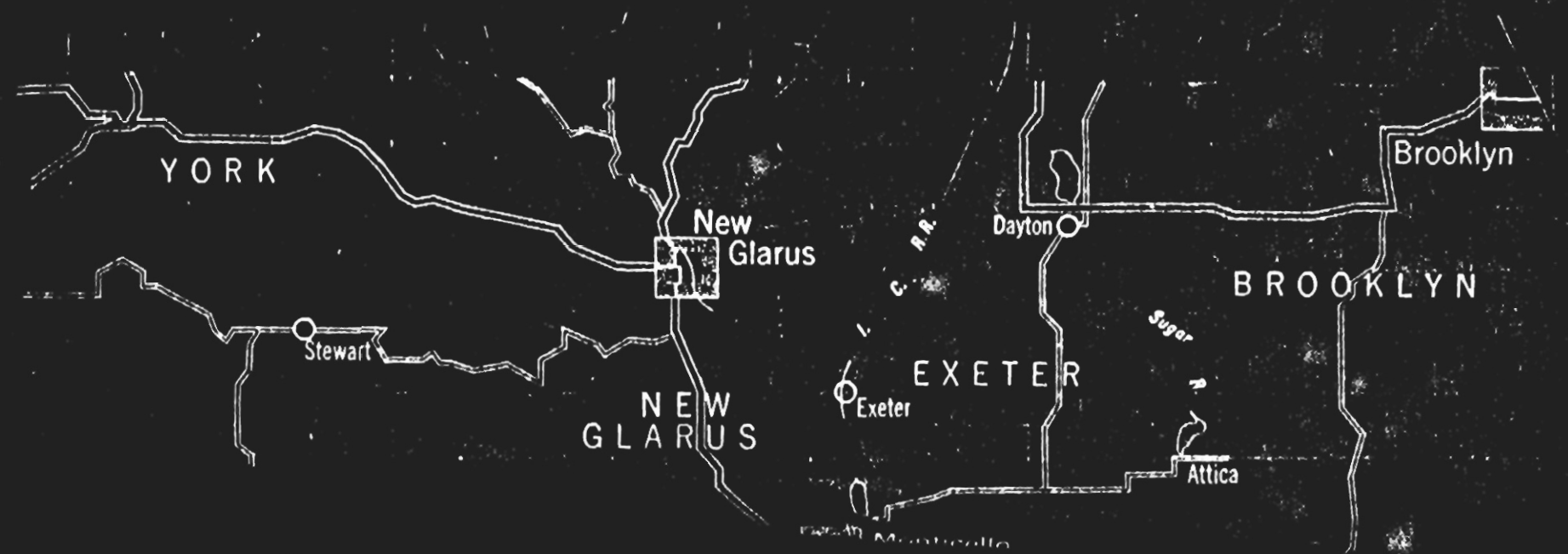


F E R S O N
Town of Palmyra
R-16-E

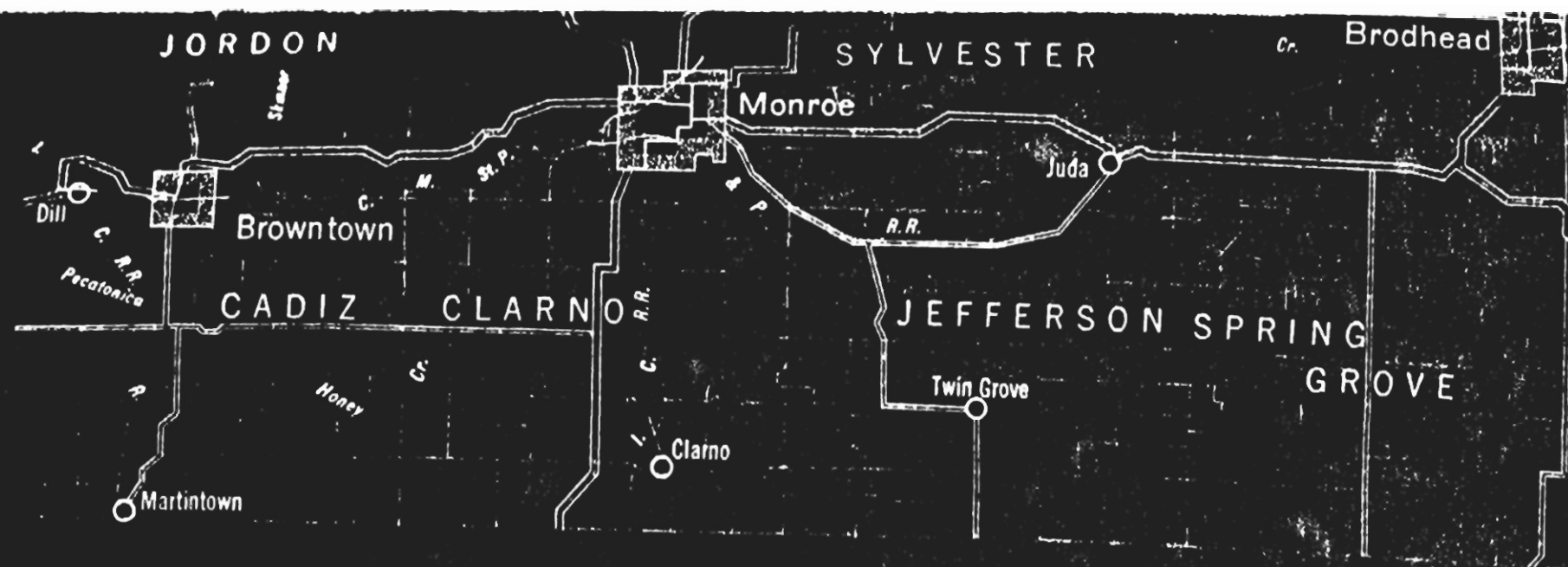
W A U K
Town of Eagle
R-17-E
88-30

Town of Mukwonago
R-18-E



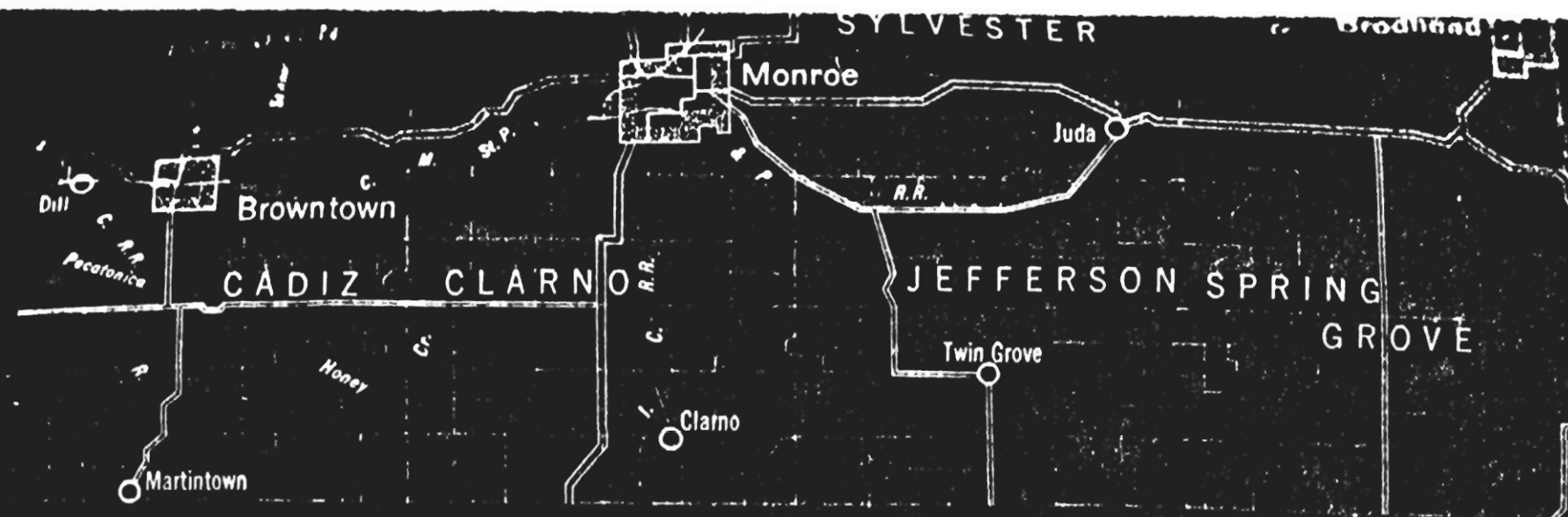


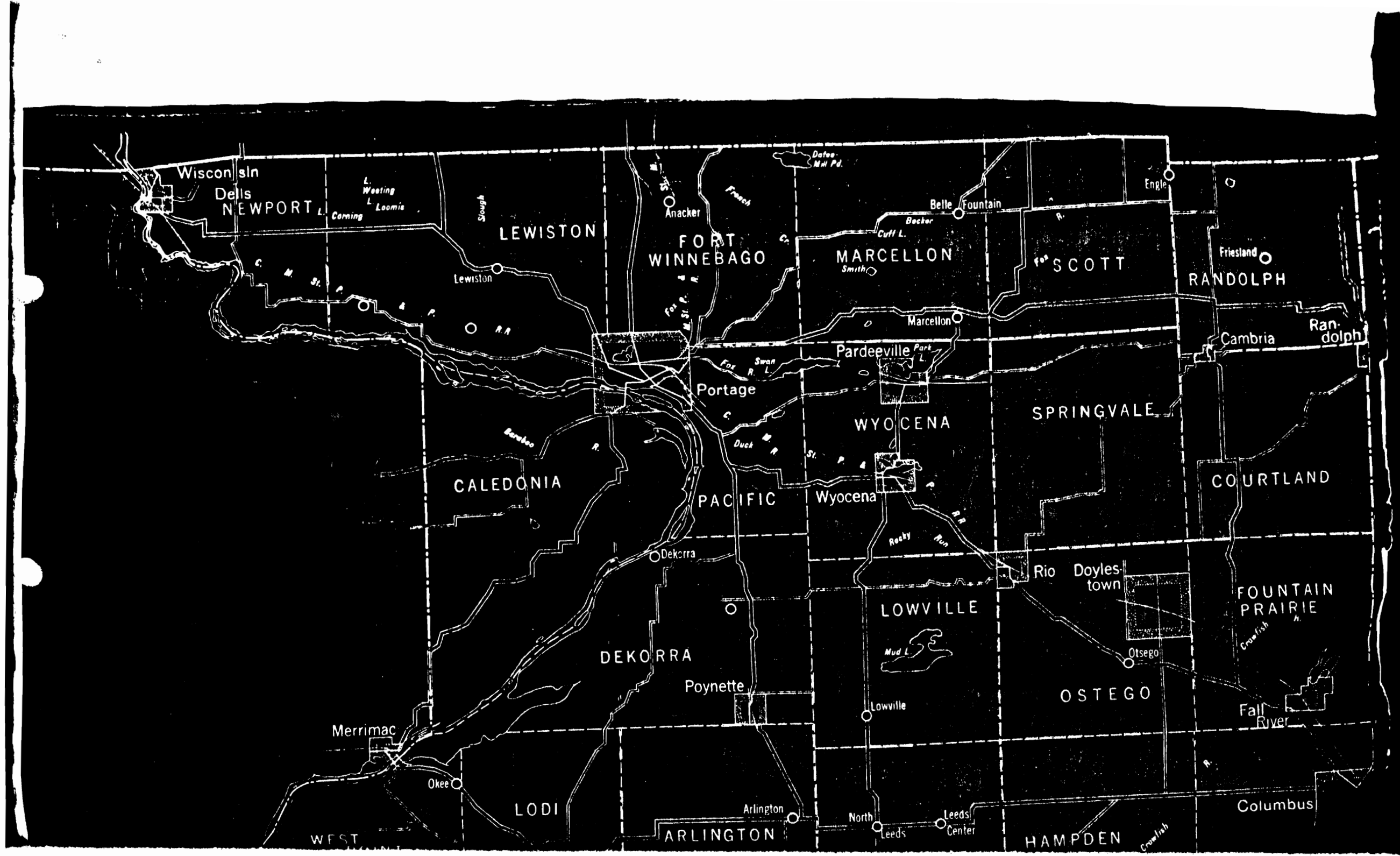


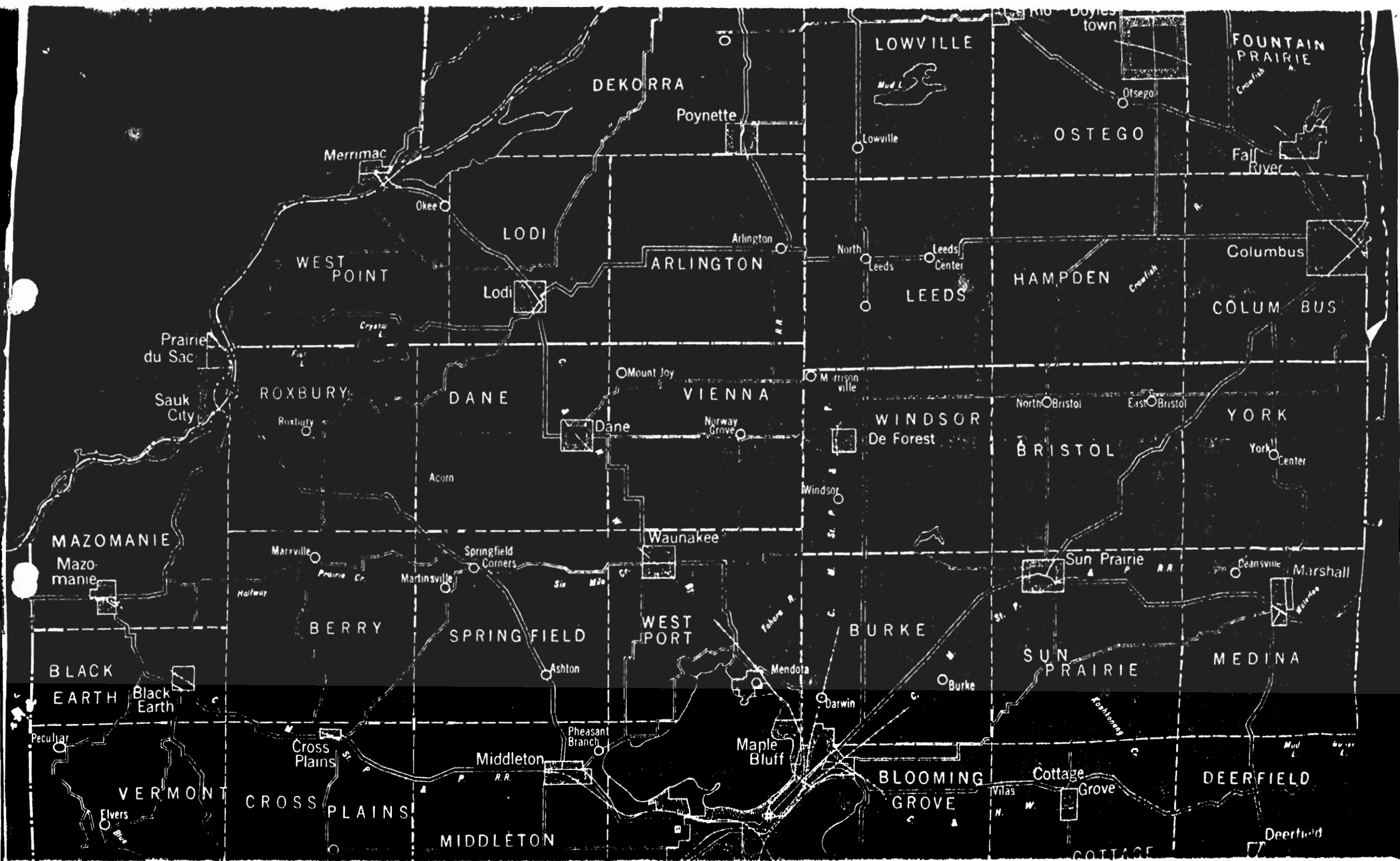


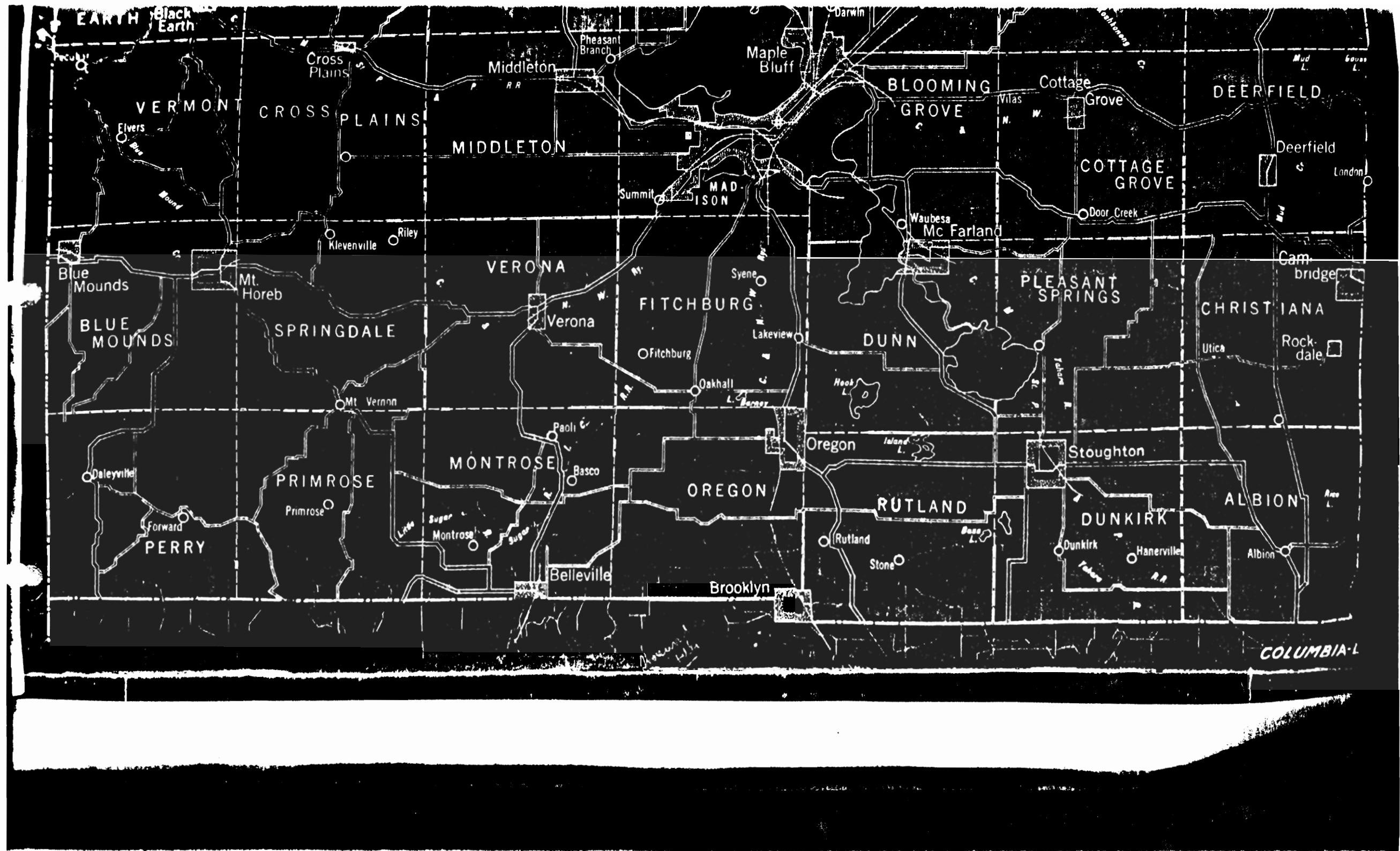


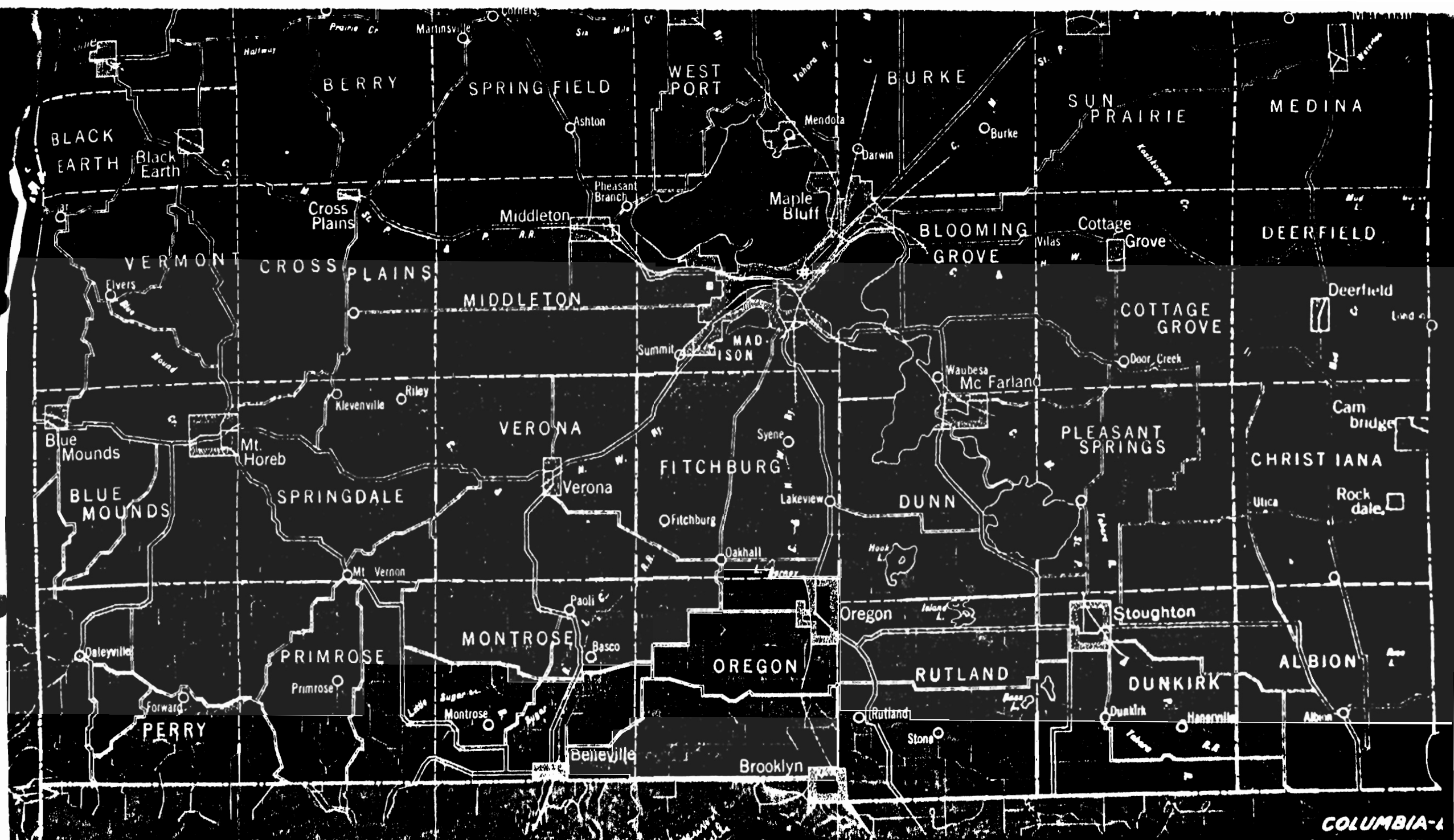


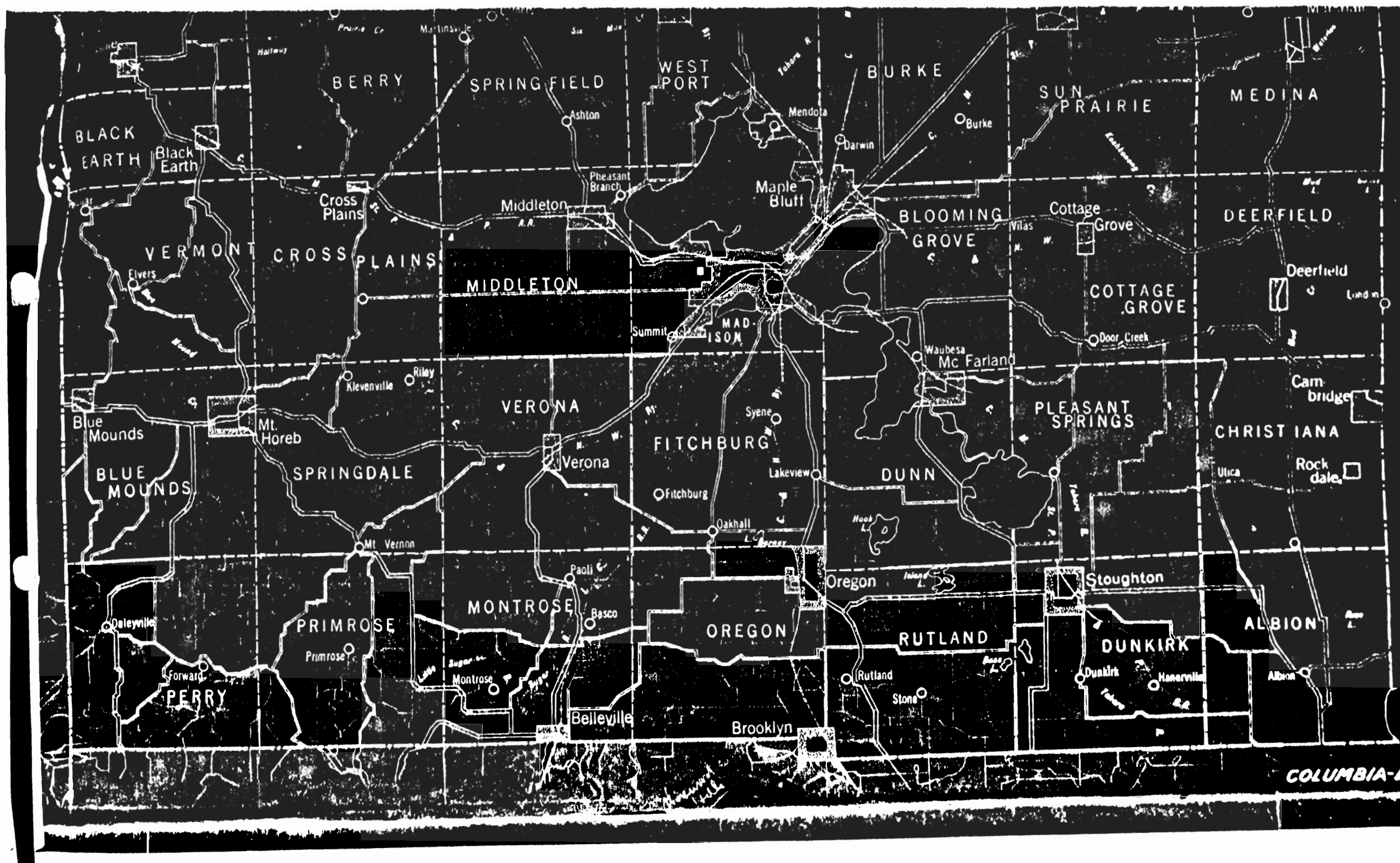








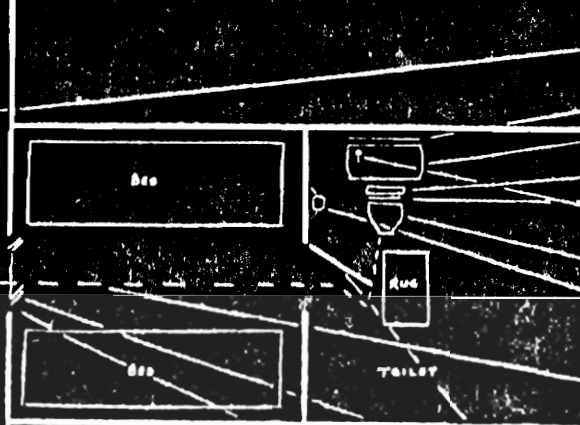
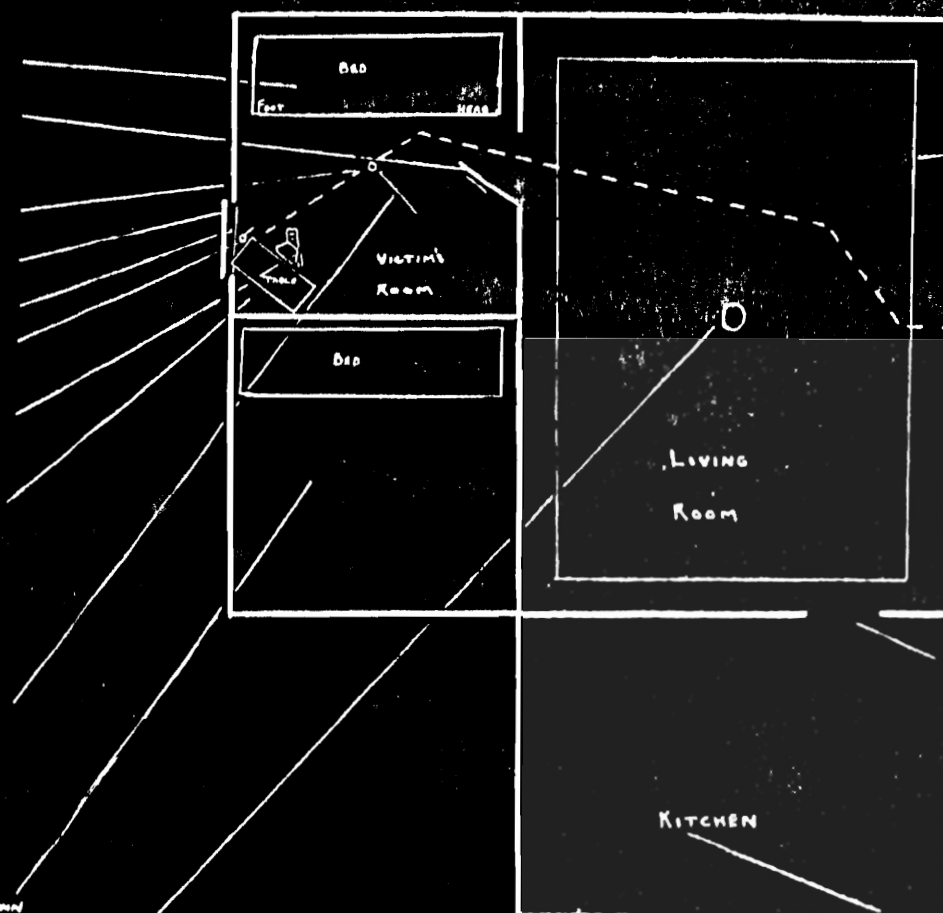








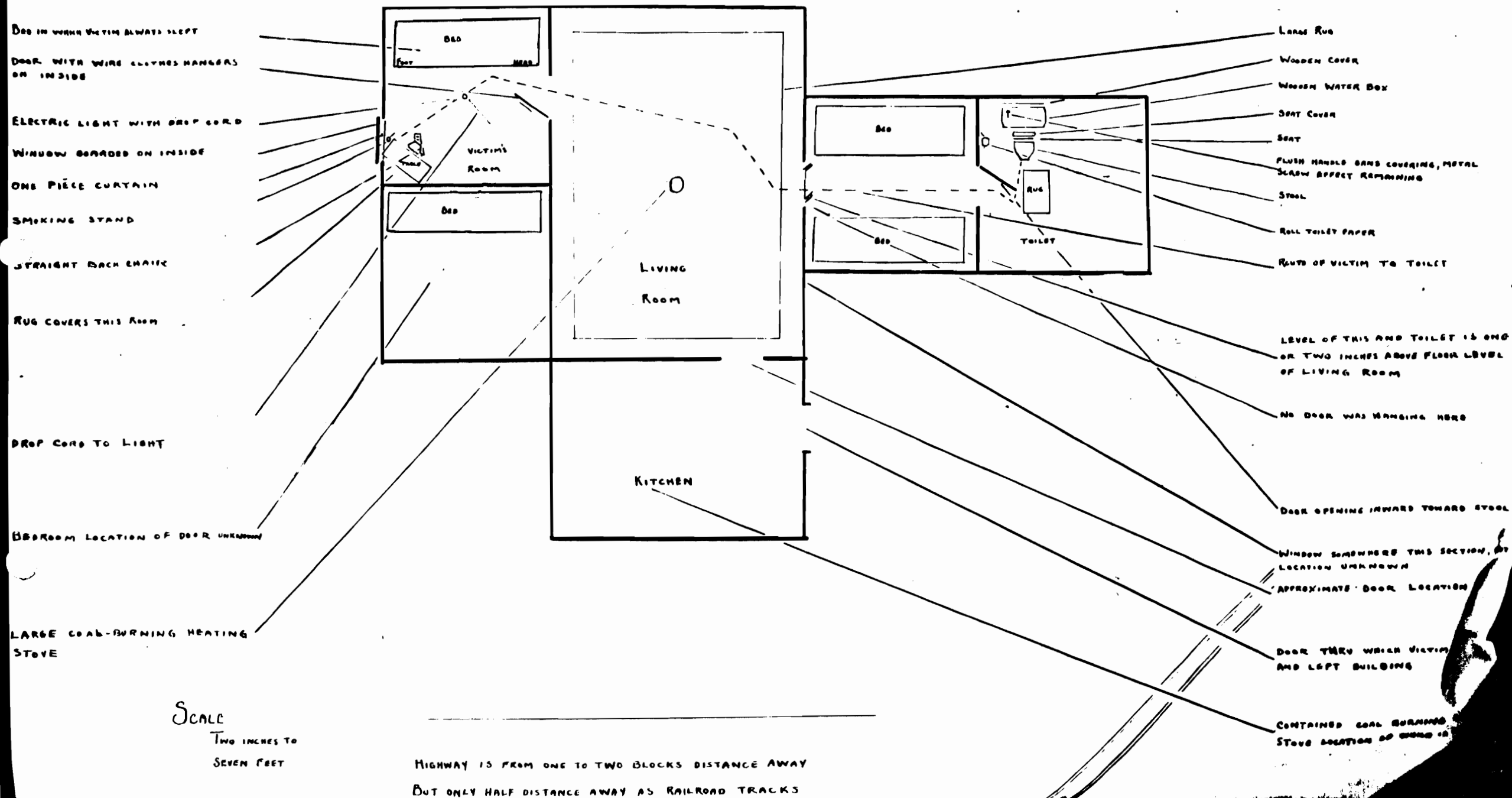
DOOR IN WHICH VICTIM ALWAYS SLEPT
 DOOR WITH WIRE CLOTHES HANGERS
 ON INSIDE
 ELECTRIC LIGHT WITH DROP CORD
 WINDOW BOARDED ON INSIDE
 ONE PIECE CURTAIN
 SMOKING STAND
 STRAIGHT BACK CHAIR
 RUG COVERS THIS ROOM
 DROP CORD TO LIGHT
 BEDROOM LOCATION OF DOOR UNKNOWN
 LARGE COAL-BURNING HEATING
 STOVE



LARGE RUG
 WOODEN COVER
 WOODEN WATER BOX
 BATH COVER
 SHOWER
 PRESH HANDS BARS COATING, METAL
 SLASH EFFECT REMAINING
 STEEL
 ROLL TOILET PAPER
 ROUTE OF VICTIM TO TOILET
 LEVEL OF THIS AND TOILET IS ONE
 OR TWO INCHES ABOVE FLOOR LEVEL
 OF LIVING ROOM
 NO DOOR WAS HANGING HERE
 DOOR OPENING INWARD TOWARD STEEL
 WINDOW SHOWING THIS SECTION, THE
 LOCATION UNKNOWN
 APPROXIMATE DOOR LOCATION
 DOOR OPEN WHEN VICTIM
 AND LEFT BUILDING
 CONTAINS COAL-BURNING
 STOVE LOCATION OF STOVE

SCALE
 TWO INCHES TO
 SEVEN FEET

HIGHWAY IS FROM ONE TO TWO BLOCKS DISTANCE AWAY
 BUT ONLY HALF DISTANCE AWAY AS RAILROAD TRACKS



BED IN WHICH VICTIM ALWAYS SLEPT

DOOR WITH WIRE CLOTHES HANGERS ON INSIDE

ELECTRIC LIGHT WITH DROP CORD

WINDOW BOARDED ON INSIDE

ONE PIECE CURTAIN

SMOKING STAND

STRAIGHT BACK CHAIR

RUG COVERS THIS AREA

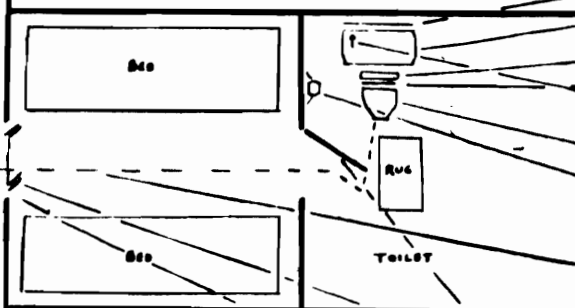
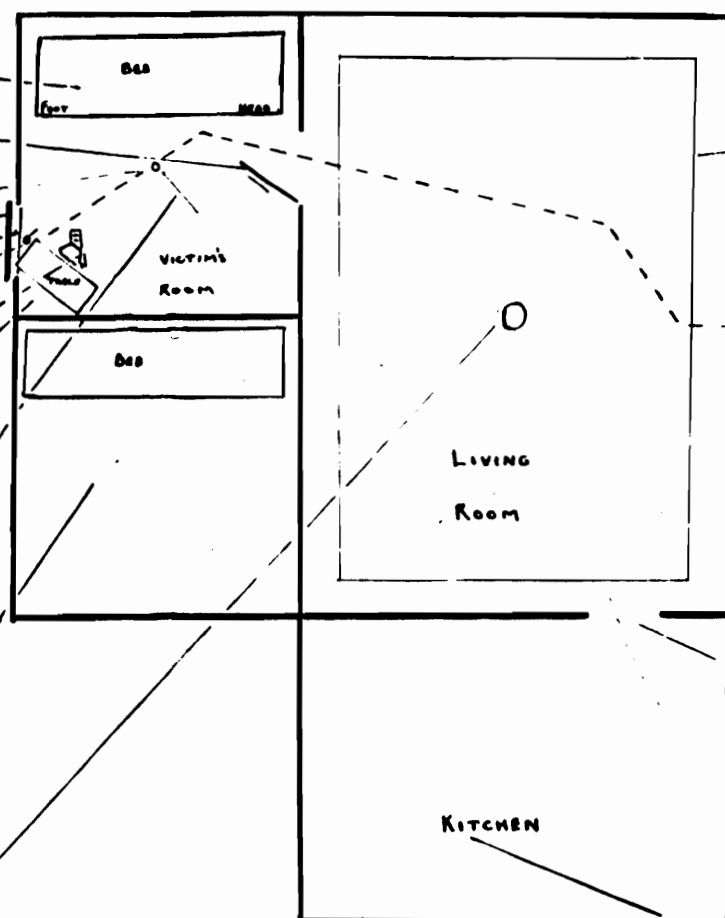
DROP CORD TO LIGHT

BED ROOM LOCATION OF DOOR UNKNOWN

LARGE COAL-BURNING HEATING STOVE

SCALE
Two inches to
seven feet

HIGHWAY IS FROM ONE TO TWO BLOCKS DISTANCE AWAY
BUT ONLY HALF DISTANCE AWAY AS RAILROAD TRACKS



Large Rug

Wooden Cover

Wooden Water Box

Seat Cover

Seat

FLUSH HANDLE BARS LOOSING, METAL
SLASH EFFECT REMAINING

Stool

Roll Toilet Paper

Route of Victim to Toilet

LEVEL OF THIS AND TOILET IS ONE
OR TWO INCHES ABOVE FLOOR LEVEL
OF LIVING ROOM

NO DOOR WAS HANGING HERE

DOOR OPENING INWARD TOWARD STOOL

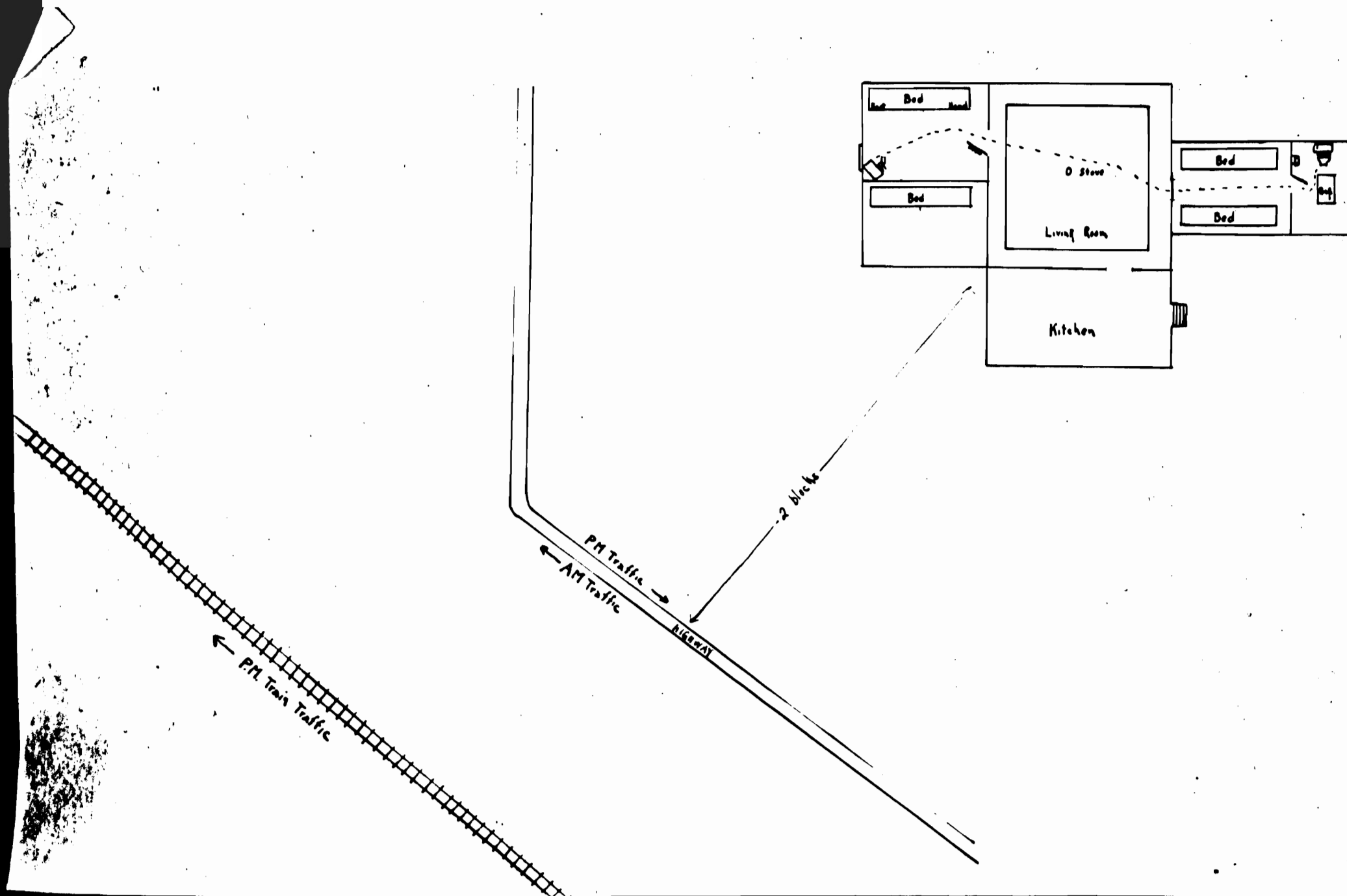
WINDOW SHOWED THIS SECTION
LOCATION UNKNOWN

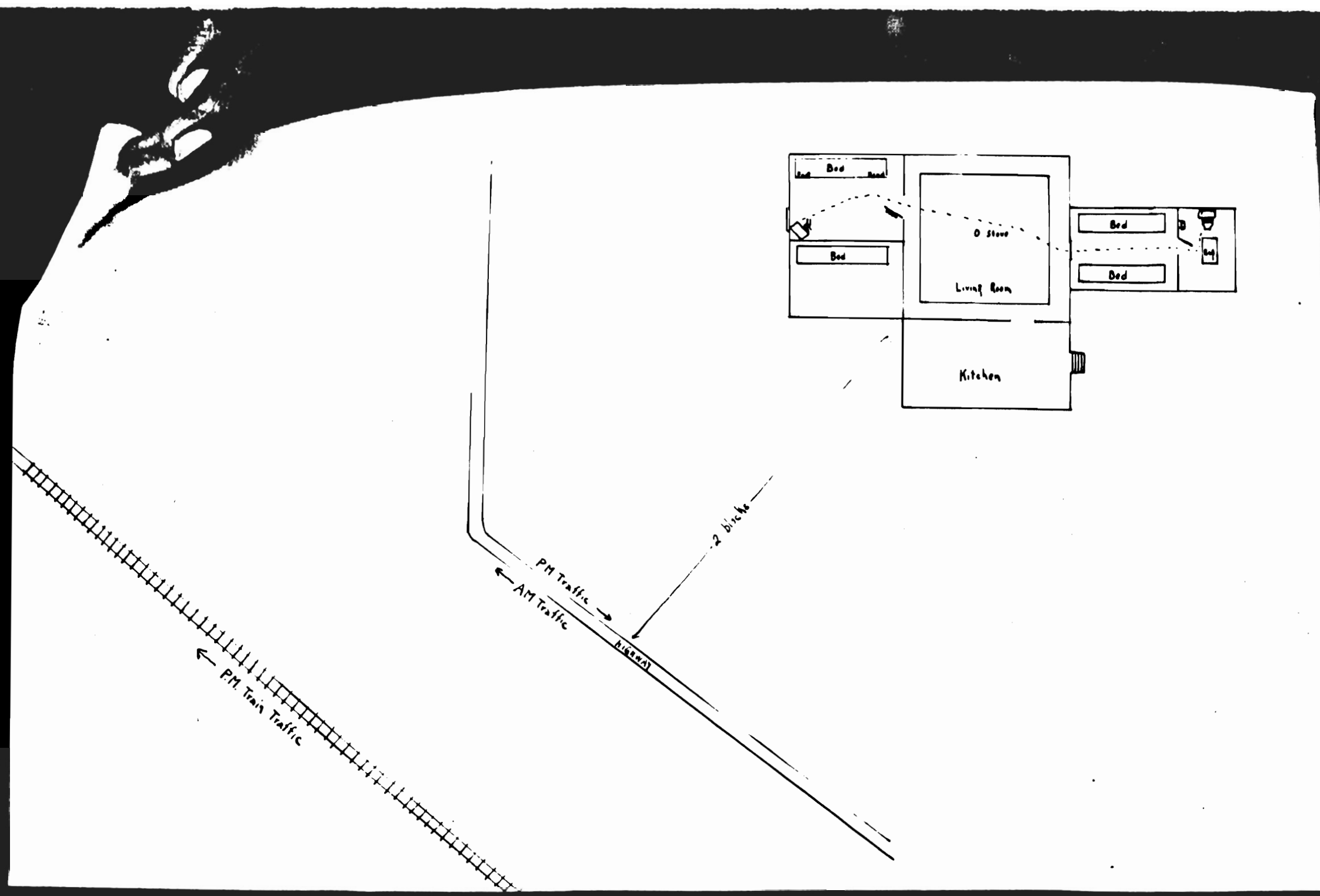
APPROXIMATE DOOR LOCATION

DOOR THRU WHICH VICTIM
AND LEFT BUILDING

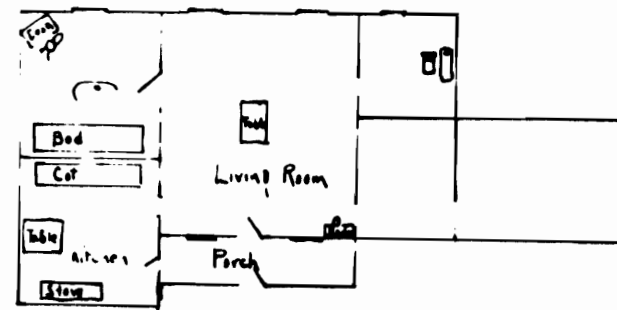
CONTAINED COAL BURNING
STOVE LOCATION OF STOVE

7-10 steps down





Lake Cravala



There is no walk from Porch to Driveway

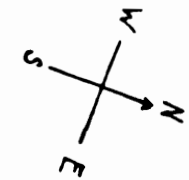
Will Shaw's house
White Water, Wisconsin

Garage

level board
about 10' above
street level

Driveway
decided slope down to street

Two houses between
Will Shaw and RR tracks



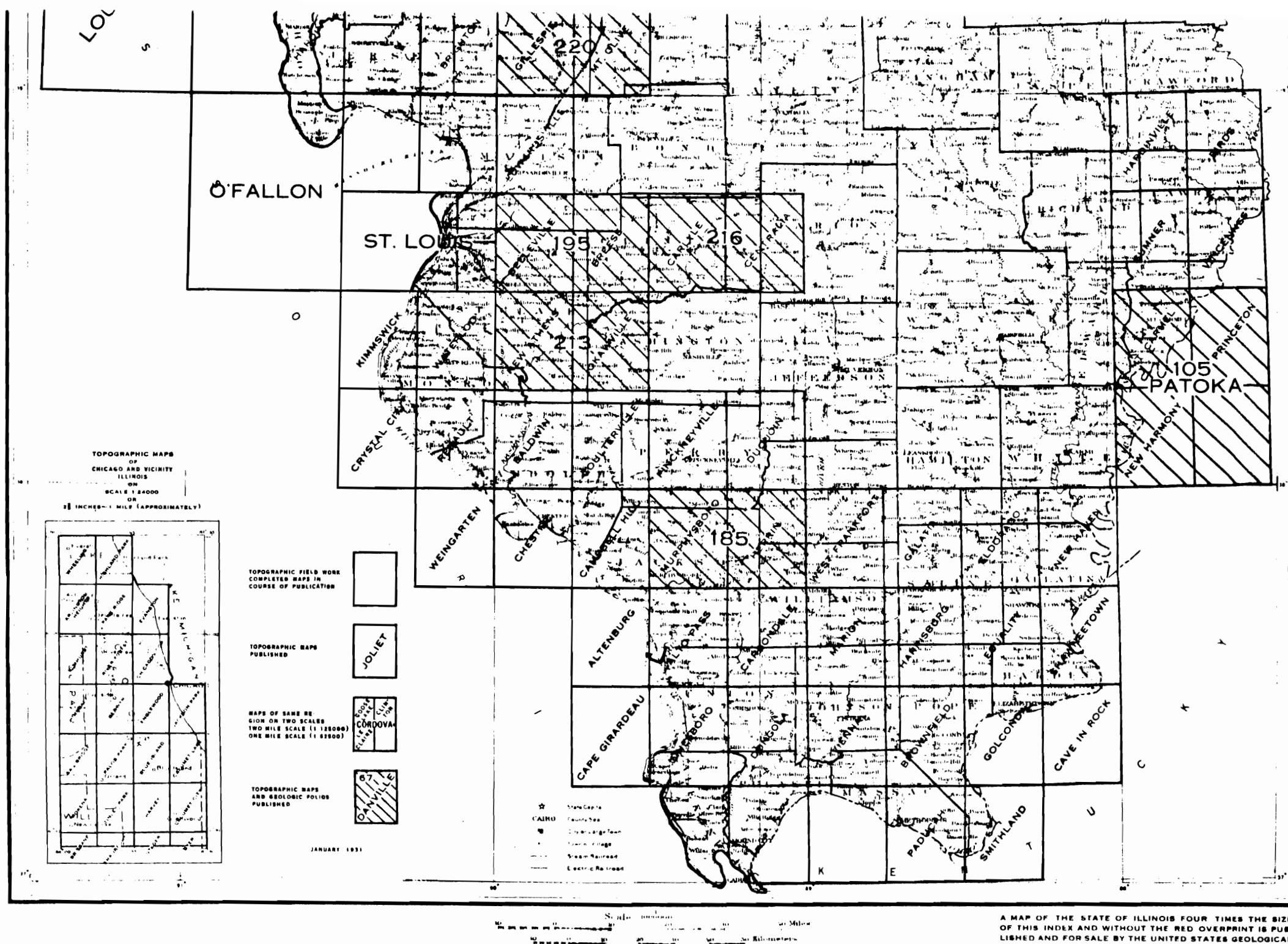
Passenger Train
Steam 10:00 AM
Freight Train - all day
10:00 AM
1:00 PM
4:00 PM

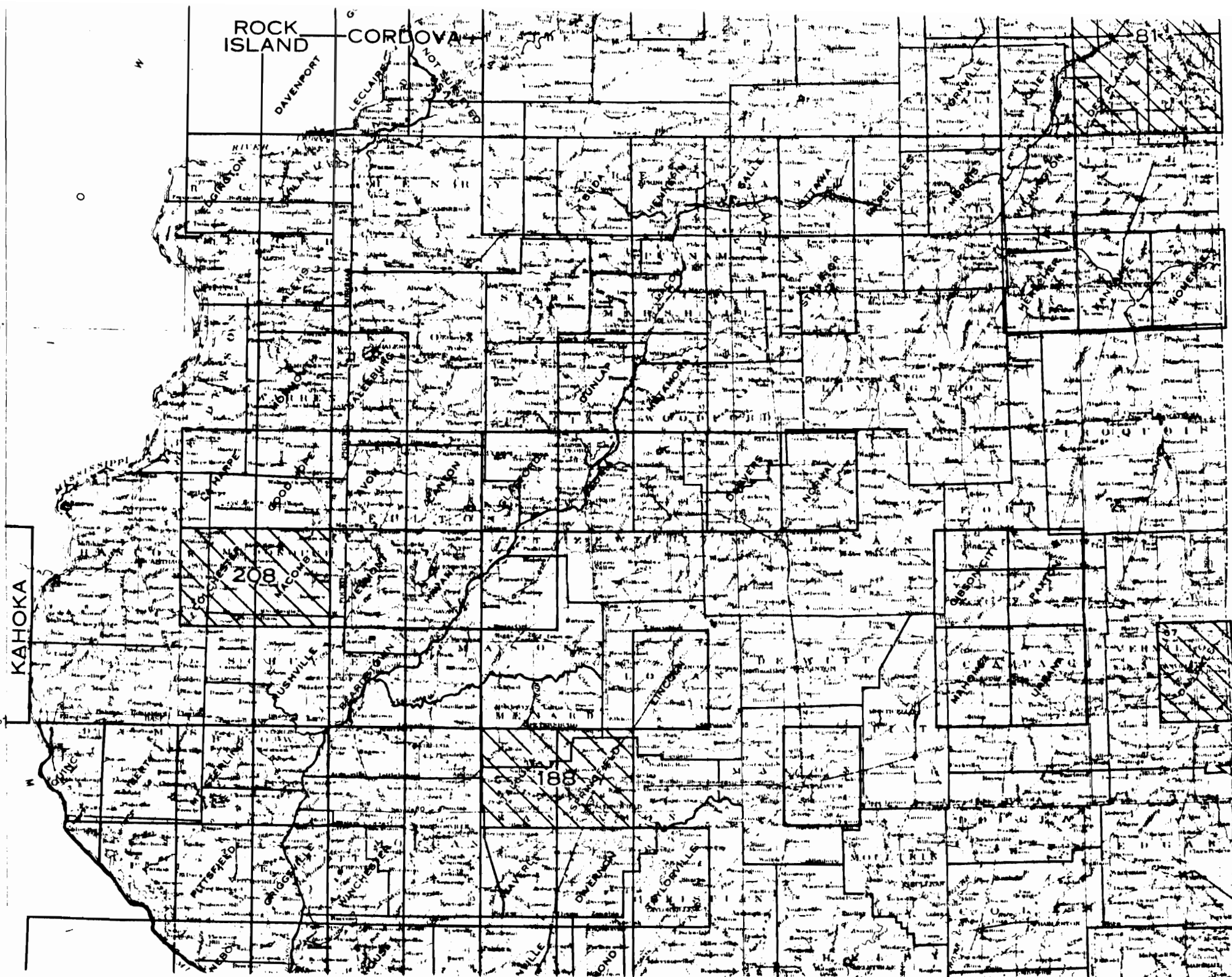
WISCONSIN STREET

← To Cemetery Hill

To St Paul →

Freight Train
Milwaukee Street Railway Co.
all day





INDEX TO TOPOGRAPHIC MAPS AND GEOLOGIC FOLIOS
ORDER MAPS BY NAMES PRINTED IN RED. NO OTHERS ARE PUBLISHED

MAPS OF THE UNITED STATES

A wall map, 55 by 85 inches, in two sheets, on a scale of 87 miles to 1 inch, approximately, without contours, showing coal fields. Price, \$1; if included in wholesale orders, 60 cents.
 A wall map, 49 by 76 inches, in two sheets, on a scale of 40 miles to 1 inch, approximately, either with or without contours. Price, 60 cents; if included in wholesale orders, 36 cents.
 A wall map, same size and scale as next above, without contours, showing producing coal districts. Price, 75 cents; if included in wholesale orders, 45 cents.
 A wall map, 40 by 23 inches, on a scale of 80 miles to 1 inch, on which is indicated by depth of brown and blue colors the relative height of the land and the depth of the sea. The position of the principal cities and the boundaries of the States are shown. Price, 75 cents; in lots of 10 or more, 50 cents.
 A map, 18 by 28 inches, on a scale of 110 miles to 1 inch, either with or without contours. Price, 15 cents; if included in wholesale orders, 9 cents.
 A relief or hypsometric map, same size, scale, and price as next above; altitudes indicated by colors.
 A base map, 11 by 16 inches, on a scale of 190 miles to 1 inch. Price, 5 cents; if included in wholesale orders, 3 cents.
 A base map, 8½ by 13 inches, on a scale of 360 miles to 1 inch. Price, 1 cent; if included in wholesale orders, five for 8 cents.
 A map, 28 by 31 inches, on a scale of 110 miles to 1 inch, without contours, showing the physical divisions. Price, 10 cents; if included in wholesale orders, 6 cents.

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Purchasers may avoid delay incident to ordering through the mails by buying of the following agents, who carry in stock maps of areas in their vicinity and sell them at prices slightly in advance of rates mentioned in this circular:

ILLINOIS

CHICAGO:
 Central Scientific Co., 460 East Ohio Street.
 Chicago Apparatus Co., 22 South Clinton Street.
 Denoyer-Geppert Co., 5285-5287 Ravenswood Avenue.
 A. J. Nyström & Co., 8383 Elston Avenue.
 Rand, McNally & Co., 586 South Clark Street.
 Universal News Co., 74 West Madison Street.
 University of Chicago Bookstore, 5803 Ellis Avenue.
 W. M. Welch Scientific Co., 1516 Orleans Street.
 Fred Wild Co., 814 South Franklin Street.
CHICAGO HEIGHTS:
 Weber Costello Co. (E. D. Hubbard).
DANVILLE:
 Illinois Printing Co. (M. S. Jones).
EAST ST. LOUIS:
 Watson & Son, 510 Missouri Avenue.
EVANSTON:
 H. E. Chandler & Co.
MACOMB:
 A. A. Schafer.
OTTAWA:
 Wheeler & Malo, 709 La Salle Street.
PEORIA:
 Jacquelin & Co., 221½ Main Street.

NEW YORK

NEW YORK CITY:
 Hagstrom Map Co., 20 Vesey Street.
 C. S. Hammond, 80 Church Street.

ILLINOIS

DEPARTMENT OF THE INTERIOR

UNITED STATES GEOLOGICAL SURVEY

Topographic maps.—The United States Geological Survey is making a topographic atlas of the United States. The unit of survey is a quadrangle bounded by parallels of latitude and meridians of longitude, but different quadrangles are mapped on different scales, and consequently the standard maps, though of nearly uniform size (about 16½ by 20 inches), represent areas of different sizes. The standard scales are 1:31,680 (1 inch=one-half mile), 1:62,500 (1 inch=nearly 1 mile), and 1:125,000 (1 inch=nearly 2 miles). Some maps are published on special scales. Each quadrangle is designated by the name of a city, town, or prominent natural feature within it, and on the margins of the map are printed the names of adjoining quadrangles of which maps have been published. The maps are printed in three colors. The cultural features, such as roads, railroads, cities, and towns, as well as the lettering, are in black; the water features are in blue; and the features of relief—hills, mountains, etc.—are shown by brown contour lines. The contour interval differs according to the scale of the map and the relief of the country. On some maps woodland areas are shown in green and special features in other colors.

The progress of this work in Illinois is shown on the index map within. The surveys since 1905 have been made in cooperation with the State Geological Survey. Each of the rectangles outlined in red indicates a quadrangle of which a topographic survey has been made. The name of the resulting topographic map, if published, is also shown, and its scale is indicated by the size of the rectangle. Each of the maps represented by the smallest rectangles shows a quadrangle measuring 7½' each way, or about 55 square miles. The scale is 1:24,000, and the contour interval is 5 feet. Each of the maps represented by the rectangles intermediate in size shows a quadrangle measuring 15' each way, or from 221 to 238 square miles, the area differing according to the latitude. The scale is 1:62,500, and the contour interval is either 10 or 20 feet, except on one map (Chicago), where it is only 5 feet. Each of the maps represented by the larger rectangles shows a quadrangle measuring 30' each way or from 885 to 938 square miles. The scale is 1:125,000, and the contour interval is either 20 or 50 feet. The whole number of published topographic maps covering quadrangles in Illinois is 164. A list of general and special maps and sheets, is given on page 3.

The price of the standard maps is 10 cents each, but a discount of 40 per cent is allowed on an order amounting to \$5 at the retail price—that is, the wholesale rate for standard topographic maps is \$3 for 50. The discount is allowed on an order for maps alone, either of one kind or in any assortment, or for maps together with geologic folios. (See below.) Prices for maps other than the standard are given on page 3 of this circular. No discount will be allowed on an order amounting to less than \$3. Prepayment is required and may be made by money order, payable to the Director of the United States Geological Survey or in cash—the exact amount—at sender's risk; postage stamps should not be sent.

If maps ordered are not in stock the right is reserved to substitute others rather than return very small sums of money by mail, unless directions to the contrary are given in the order. Name of county should be included in post-office address.

The Survey can not supply mounted maps.

Geologic folios.—Geologic maps of the areas shown on the topographic maps are being published in the form of folios. Each folio includes maps showing the topography, geology, underground structure, and mineral deposits of the area mapped and several pages of descriptive text. The text explains the maps and describes the topographic and geologic features of the country and its mineral products. The folios are of special interest to students of geography and geology and are valuable as guides in the development and utilization of mineral resources.

For Illinois 12 folios have been issued, as shown on the index map by the rectangles shaded red and numbered. Folios 67, 81, 105, and 145 are out of print. The price of Folios 185 and 188 is 25 cents a copy for the library edition and 50 cents for the octavo edition, with a reduction of 40 per cent if included in wholesale orders. Folios 195, 200, 208, 213, 216, and 220 are published only in the library edition, which sells for 25 cents a copy retail, or 15 cents wholesale. A general circular on geologic folios may be had on application.

World Atlas of Commercial Geology.—The World Atlas of Commercial Geology has been compiled by the United States Geological Survey to help in directing both the industry and the commerce of the United States. Two parts have been published. Part I, Distribution of mineral production, gives the results of a study of the world's supply of essential minerals. Part I is out of print. Part II, Water power of the world, shows the world's potential water power and the extent to which it has been utilized at home and abroad. Price \$1; in lots of 10 or more, 60 cents.

All correspondence should be addressed to—

THE DIRECTOR,
 UNITED STATES GEOLOGICAL SURVEY,
 WASHINGTON, D. C.

January, 1931.
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ILLINOIS DEPARTMENT OF THE INTERIOR UNITED STATES GEOLOGICAL SURVEY

GEOLOGIC AND OTHER REPORTS

The following reports relate to Illinois but are not parts of the topographic or geologic atlas. An asterisk (*) indicates that the report is out of print, but many such reports are available for consultation in certain libraries. (See list on p. 3.) The publications for which the price is stated are sold by the Superintendent of Documents, Government Printing Office, Washington, D. C. Remittances to that official should be made by postal money order, express order, or check; postage stamps will not be accepted.

ANNUAL REPORTS:

- Seventeenth, 1895-96. *Part II contains: Water resources of Illinois, by Frank Leverett, pp. 695-849.
Eighteenth, 1896-97. Part I contains: Triangulation and spirit leveling, by H. M. Wilson and others, pp. 181-422. \$1.
Nineteenth, 1897-98. Part I contains: Triangulation and spirit leveling, by H. M. Wilson and others, pp. 145-408. \$1.
Twentieth, 1898-99. Part I contains: Triangulation and spirit leveling, by H. M. Wilson and others, pp. 211-530. \$1.
Twenty-second, 1900-1901. *Part III contains: The eastern interior coal field, by G. H. Ashley, pp. 265-305.

MONOGRAPH:

88. The Illinois glacial lobe, by Frank Leverett. 1899. 817 pp. \$1.60.

PROFESSIONAL PAPERS:

- *11. The clays of the United States east of Mississippi River, by Heinrich Ries. 1908. 296 pp.
100-A. The coal fields of the United States: General introduction, by M. R. Campbell, pp. 1-33. 40c.
*185. The composition of the river and lake waters of the United States, by F. W. Clarke. 1924. 199 pp.

BULLETINS:

- *58. Glacial boundary in western Pennsylvania, Ohio, Kentucky, Indiana, and Illinois, by G. F. Wright. 1890. 112 pp.
*201. Results of primary triangulation and primary traverse, 1901-2, by H. M. Wilson and others. 164 pp.
*213. Contributions to economic geology, 1902. Contains: Recent work in the coal field of Indiana and Illinois, by M. L. Fuller and G. H. Ashley, pp. 284-293; Stone industry in the vicinity of Chicago, Ill., by W. C. Alden, pp. 357-360.
*214. Results of triangulation and primary traverse, 1902-3, by R. S. Gannett. 20c.

GEOLOGIC AND OTHER REPORTS—Continued

WATER-SUPPLY PAPERS—Continued.

289. The quality of the surface waters of Illinois, by W. D. Collins. 1910. 94 pp. 10c.
334. The Ohio Valley flood of March-April, 1913, by A. H. Horton and H. J. Jackson. 96 pp. 20c.
340. Stream-gaging stations and publications relating to water resources, 1895-1913, by H. D. Wood. 195 pp. 15c.
364. Water analyses from the laboratory of the United States Geological Survey, by F. W. Clarke. 1914. 40 pp. 5c.
*497. Bibliography and index of the publications of the United States Geological Survey relating to ground water, by O. E. Meinzer. 1918. 169 pp.
558. Preliminary index to river surveys made by the United States Geological Survey and other agencies, by B. E. Jones and R. O. Helland. 1926. 108 pp. 20c.

Stream measurements in the years mentioned:

Year	Water-Supply Paper	Price (cents)	Year	Water-Supply Paper	Price (cents)	Year	Water-Supply Paper	Price (cents)	Year	Water-Supply Paper	Price (cents)
1902	468	10	1913	528	10	1918	473	10	1923	548	25
1903	468	20	1914	528	25	1919	473	15	1924	548	35
1904	128	15	1915	528	30	1920	473	20	1925	548	30
1905	171	15	1916	528	15	1921	504	20	1926	548	35
1906	207	15	1917	528	15	1922	504	20	1927	548	30
1907-8	248	20	1918	528	20	1923	504	20	1928	548	35
1909	263	30	1919	528	20	1924	504	20	1929	548	30
	265	25	1920	528	15	1925	504	20	1930	548	35
1910	283	15	1921	528	15	1926	504	20	1931	548	30
	285	20	1922	528	15	1927	504	20	1932	548	35
1911	308	10	1923	528	20	1928	504	20	1933	548	30
	305	15	1924	528	20	1929	504	20	1934	548	35

Libraries.—Many of the publications listed above may be consulted in the following libraries in Illinois:

BELLEVILLE: Public.	FREEPORT: Public.	PEORIA: Public.
BLOOMINGTON: Illinois Wesleyan University.	GALESBURG: Free Public.	ROCKFORD: Public.
		SPRINGFIELD: Public.

CHICAGO: Central Scientific Co., 460 East Ohio Street. Chicago Apparatus Co., 88 South Clinton Street. Leonard & Co., 5235-5237 Ravenswood Avenue. A. J. Nyström & Co., 2338 Elston Avenue. Rand, McNally & Co., 638 South Clark Street. Universal News Co., 74 West Madison Street. University of Chicago Bookstore, 1608 Ellis Avenue. W. M. Welch Scientific Co., 1616 Orleans Street. Fred Wild Co., 814 South Franklin Street. Chicago Hixons: Weber Cosello Co. (E. D. Hubbard). NEW YORK Jacquin & Co., 231 Main Street. Piora: Whoeber & Malo, 709 La Salle Street. OTAWA: A. A. Behr. MACOM: H. E. Chandler & Co. EVANSTON: Watson & Son, 510 Milwaukee Avenue. East St. Louis: Illinois Printing Co. (M. S. Jones). DANVILLE: ILLINOIS	NEW YORK
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LOCAL AGENTS FOR TOPOGRAPHIC MAPS

Purchasers may avoid delay incident to ordering through the mails by buying of the following agents, who carry in stock maps of areas in their vicinity and sell them at prices slightly in advance of rates mentioned in this circular:

MAPS OF THE UNITED STATES

A wall map, 56 by 86 inches, on a scale of 87 miles to 1 inch, approximately, without contour, showing coal fields. Price, \$1. If included in wholesale orders, 60 cents.

A wall map, 48 by 76 inches, in two sheets, on a scale of 40 miles to 1 inch, approximately, either with or without contours. Price, 60 cents; if included in wholesale orders, 50 cents.

A wall map, same size and scale as next above, without contours, showing producing coal districts. Price, 75 cents; if included in wholesale orders, 45 cents.

A wall map, 40 by 63 inches, on a scale of 50 miles to 1 inch, on which is indicated by depth of brown and blue colors the relative height of the land and the depth of the sea. The position of the principal cities and the boundaries of the States are shown. Price, 75 cents; in lots of 10 or more, 50 cents.

A map, 16 by 25 inches, on a scale of 110 miles to 1 inch, either with or without contours. Price, 15 cents; if included in wholesale orders, 9 cents.

A relief or hypsometric map, same size, scale, and price as next above; altitudes indicated by colors. Price, 11 by 16 inches, on a scale of 190 miles to 1 inch. Price, 5 cents; if included in wholesale orders, 3 cents.

A base map, 11 by 16 inches, on a scale of 190 miles to 1 inch. Price, 5 cents; if included in wholesale orders, 3 cents.

A base map, 84 by 13 inches, on a scale of 280 miles to 1 inch. Price, 1 cent; if included in wholesale orders, five for 8 cents.

A map, 28 by 31 inches, on a scale of 110 miles to 1 inch, without contours, showing the physical divisions. Price, 10 cents; if included in wholesale orders, 5 cents.

- Bain, pp. 292-297; Fluorspar deposits of southern Illinois, by H. F. Bain, pp. 505-511.
- *245. Results of primary triangulation and primary traverse, 1903-4, by S. S. Gannett. 328 pp.
246. Zinc and lead deposits of northwestern Illinois, by H. F. Bain. 1905. 56 pp. 15c.
255. The fluorspar deposits of southern Illinois, by H. F. Bain. 1905. 75 pp. 15c.
276. Results of primary triangulation and primary traverse, 1904-5, by S. S. Gannett. 268 pp. 20c.
294. Zinc and lead deposits of the upper Mississippi Valley, by H. F. Bain. 1906. 155 pp. 75c.
- *302. Areas of the United States, the States, and the Territories, by Henry Gannett. 1906. 9 pp.
- *310. Results of primary triangulation and primary traverse, 1905-6, by S. S. Gannett. 248 pp.
- *316. Contributions to economic geology, 1906, Part II. Contains: Coal investigations in the Saline-Gallatin field, Ill., and adjoining area, by F. W. De Wolf, pp. 116-186.
- *340. Contributions to economic geology, 1907, Part I. Contains: Concrete materials produced in the Chicago district, by E. F. Burchard, pp. 388-410.
421. Results of spirit leveling in Illinois, 1898-1908, by S. S. Gannett and D. H. Baldwin. 74 pp. 10c.
- *433. Geology and mineral resources of the St. Louis quadrangle, Mo.-Ill., by N. M. Fenneman. 1911. 78 pp.
440. Results of triangulation and primary traverse, 1906, 1907, and 1908. 689 pp. 50c.
- *470. Contributions to economic geology, 1910, Part I. Contains: Clay resources of the Murphysboro quadrangle, Ill., by E. W. Shaw, pp. 297-301.
498. Results of spirit leveling in Illinois, 1909 and 1910. 115 pp. 10c.
496. Results of triangulation and primary traverse for the years 1909 and 1910. 392 pp. 30c.
506. Geology and mineral resources of the Peoria quadrangle, Ill., by J. A. Udden. 1912. 108 pp. 25c.
- *522. Portland cement materials and industry in the United States, by E. C. Eckel and others. 1913. 401 pp.
- *531. Contributions to economic geology, 1911, Part II. Contains: Miscellaneous analyses of coal samples from various fields of the United States, pp. 381-385.
- *541. Contributions to economic geology, 1912, Part II. Contains: Analyses of coal samples from various fields of the United States, by M. R. Campbell. pp. 491-526.
551. Results of triangulation and primary traverse, 1911 and 1912. 396 pp. 30c.
553. Results of spirit leveling in Illinois, 1911-1913. 110 pp. 10c.
- *599. Our mineral reserves—how to make America industrially independent, by G. O. Smith. 1914. 48 pp.
- *624. Useful minerals of the United States (revised), by F. C. Schrader and others. 1916. 412 pp.
- 644-E. Primary traverse in Illinois, Wisconsin, Minnesota, North Dakota, and South Dakota, 1913-1915, pp. 225-296. 5c.
659. Cannel coal in the United States, by G. H. Ashley. 1918. 127 pp. 15c.
672. Spirit leveling in Illinois, 1914-1917. 108 pp. 10c.
- *708. High-grade clays of the eastern United States, by H. Ries and others. 1922. 314 pp.
- 709-E. Primary traverse in Illinois and Wisconsin, 1916-1918. pp. 167-186. 5c.
817. Boundaries, areas, geographic centers, and altitudes of the United States and the several States, by E. M. Douglas. 1920. 285 pp. 50c.
- WATER-SUPPLY PAPERS:**
- *44. Profiles of rivers in the United States, by Henry Gannett. 1901. 100 pp.
118. The disposal of strawboard and oil-well wastes, by R. L. Sackett and Isalah Bowman. 1906. 52 pp. 5c.
- *114. Underground waters of eastern United States. Contains: Illinois, by Frank Leverett, pp. 248-257.
149. Preliminary list of deep borings in the United States, by N. H. Darton. 1906. 175 pp. 10c.
164. Underground waters of Tennessee and Kentucky west of Tennessee River and of an adjacent area in Illinois, by L. C. Glenn. 1906. 178 pp. 25c.
- *194. Pollution of Illinois and Mississippi Rivers by Chicago sewage, compiled by M. O. Leighton. 1907. 269 pp.

CHICAGO:
Field Museum.
John Crerar.
Newberry.
Public.
St. Ignatius High School.
University of Chicago.
Western Society of Engineers.

DANVILLE:
Public.

EVANSTON:
Northwestern University.

Public.
JOLIET:
Public.
LISTE:
St. Procopius College.
McKANSBORO:
Mary E. C. McCoy Memorial.
MONMOUTH:
Monmouth College.
NORMAL:
Illinois State Normal University.

Augustana College.
SPRINGFIELD:
Illinois State.
Illinois State Mining Board.
Illinois State Museum.
URBANA:
Illinois State Laboratory of
Natural History.
University of Illinois.

SPECIAL MAPS AND SHEETS

(Measurements are approximate)

- Camp Grant, Ill.** This map, which is double the standard size, shows portions of the Rockford, Belvidere, Kings, and Kirkland quadrangles, including Camp Grant and the adjacent region. On the back is printed a popular description of the origin of the natural features of the area. The map covers an area of one-eighth of a square degree, or about 448 square miles. Limiting parallels, 43° 08' and 43° 20'. Limiting meridians, 88° 45' and 89° 15'. Size, 20 by 33 inches. Scale, 1:63,500, or about 1 mile to 1 inch. Contour interval, 20 feet. Price, 10 cents; if included in wholesale orders, 6 cents.
- Chicago and vicinity.** The special maps on the scale of 1:24,000, with a contour interval of 5 feet, shown on the inset map at the lower left corner of the index map, measure 22 by 28 inches but are sold at the same price as the standard maps—10 cents each, or, if included in wholesale orders, 6 cents.
- St. Louis, Mo.-Ill.** This map, which is double the standard size, is counted as two sheets in the whole number of published topographic maps covering quadrangles in Illinois. (See p. 1.) It covers an area of one-eighth of a square degree, or about 467 square miles. Limiting parallels, 38° 30' and 38° 45'. Limiting meridians, 90° and 90° 30'. Size, 20 by 33 inches. Scale, 1:63,500, or about 1 mile to 1 inch. Contour interval, 20 feet. Price, 20 cents; if included in wholesale orders, 12 cents.
- Illinois (State).** This map is in black and white and does not show contours. Size, 31 by 53 inches. Scale, 1:500,000, or about 8 miles to 1 inch. Price, 25 cents; if included in wholesale orders, 15 cents. Also published on a scale of 1:1,000,000, or about 16 miles to 1 inch; size, 17 by 25 inches; price, 5 cents; if included in wholesale orders, 3 cents.
- Illinois (oil and gas fields).** Map printed on the United States Geological Survey's base map of Illinois, showing by distinctive colors and symbols the productive oil and gas fields, the main oil pipe lines, and the oil refineries in the State, as well as the positions of many arches, domes, and other structural features. Size, 31 by 53 inches. Scale, 1:500,000, or about 8 miles to 1 inch. Price, 50 cents; if included in wholesale orders, 30 cents.
- Mississippi River Valley below Dubuque, Iowa.** This map represents an area of about 278,000 square miles and includes the drainage basin of Mississippi River from the Gulf of Mexico as far north as Dubuque, Iowa, as far east as Evansville, Ind., and as far west as Eureka, Kans. Limiting meridians, 87° 30' and 96° 30'. Limiting parallels, 29° and 42° 30'. Size, 33 by 53 inches. Scale, 1:1,000,000, or about 16 miles to 1 inch. Price, 50 cents; if included in wholesale orders, 30 cents.
- Coal fields and producing districts.** A set of eight maps, on a scale of 1:1,000,000, or about 16 miles to 1 inch, showing the principal coal-producing districts and the areas underlain by coal-bearing rocks in the following States: West Virginia and part of Maryland, Kentucky, Tennessee, Virginia, Alabama and part of Georgia, Ohio, Indiana, and Illinois. Price of each map, 10 cents; price of the set, 50 cents, which should not be included in wholesale orders.
- North America.** This map does not show contours. Size, 29 by 38 inches. Scale, 1:10,000,000, or about 158 miles to 1 inch. Price, 40 cents; if included in wholesale orders, 24 cents.
- Sheet of standard symbols.** Shows symbols and abbreviations adopted by the Board of Surveys and Maps of the United States Government for use on Government maps; printed in five colors. Size, 18 by 30 inches. Price, 40 cents; if included in wholesale orders, 24 cents.